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PUBLIC HEALTH

A STUDY PREPARED FOR THE
ROYAL COMMISSION ON DOMINION-PROVINCIAL RELATIONS
BY
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PUBLIC HEALTH

EDITORIAL FOREWORD

In this study Dr. Grauer reviews the development and adequacy of public health services in Canada, and examines their important public finance and jurisdictional aspects. The method of presentation and any expressions of opinion are solely the responsibility of the author, and not of the Commission.

The provinces bear the major responsibility for protecting health, traditionally a function of local government, but the Dominion has some specified duties, chiefly connected with interprovincial and foreign movement (immigrants, seamen and sea passengers, railway passengers, etc.), and with Indians. Dr. Grauer devotes a considerable part of his study to a detailed description of the public health services which have been developed within the framework of the present constitutional and financial system in Canada. He finds many instances of poor organization, lack of co-operation, lack of planning, lack of knowledge, lack of adequate funds at any time, lack of adequate funds at the right time, - and consequent waste. Statistical comparisons between different parts of Canada show wide and unnecessary variations, and the tragic results of grossly inadequate services in many cases. Quite apart from the human factors involved, there are impressive calculations of the economic loss resulting from preventable sickness and death.

In considering the problem Dr. Grauer draws attention to the fact that modern conditions of urban concentration and rapid transportation demand increasing emphasis on preventive treatment and on a much broader front than in earlier times. Suggested steps are an extension of conditional subsidies, more active research, educational work, and leadership by the federal department.

The Dominion grant-in-aid for an attack on venereal diseases (1920-31) is held up as one of the most (and one of the

few) satisfactory examples of a conditional subsidy. This sole experience in the public health field suggests that where specific conditions, fixed by professional standards, can be laid down for a clearly defined object, where the sum involved can be determined in advance, and results can be measured with some exactness, the conditional subsidy may be a useful instrument in attacking both general and special health problems.

Particular attention is drawn to the unsatisfactory position of the Indian wards of the Dominion, and it is thought that many of their problems, such as tuberculosis, could be more efficiently handled by provincial health services.

Beginning with a sketch of the history and present tendencies of public health legislation, which is steadily toward preventive work, Dr. Grauer in Chapter II gives a general description of public health services in Canada. In Chapter III he discusses their scope and adequacy under ten headings. Later parts of the study deal with gaps and overlapping (Dr Grauer finds that gaps are much the more frequent), the cost of illness in Canada and the possibility of reducing it, and the use of conditional grants-in-aid. An appendix (pages 82 to 126) describes in considerable detail all the public health services now given by the provinces and the Dominion.

The first draft of this study was completed in August 1938, and after having been circulated to the Dominion and provincial governments for comment, was revised where necessary and put in its present form in the spring of 1939.

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PUBLIC HEALTH

Chapter I - History and Present Tendencies

Organization for public health is a modern development. In Britain, where it grew first, the pioneers were social reformers rather than doctors or savants. John Howard, with his programme for the sanitation of prisons in 1774, was the first great figure. By the middle of the next century, Lord Ashley, the Earl of Shaftesbury, was wielding his weighty influence to protect the health of the industrial worker. Most important of all, Edwin Chadwick, while secretary of the Poor Law Commission in 1838, was so impressed by the extent to which poverty was produced by sickness that he had an investigation made of the relationship between environmental conditions and ill health. Chadwick's resulting "Report on the Sanitary Condition of the Labouring Population of Great Britain", 1842, had a world-wide influence and was responsible for the fundamental steps towards clean water, sewerage and the eradication of filth.

The latter quarter of the century saw a second type of public health measure, the protection of the public against the spread of communicable diseases. This development had to await Pasteur's discovery of the microbic origin of disease (1870) and Koch's description of the tubercle bacillus, (1882). It was made all the more important by the intervening development of the steam railway, the steamship and better roads, which greatly increased the danger of spread of infection. And both the microbic and sanitary approaches to public health became of crucial importance with the continued growth of large industrial cities and the highly complex social organization characteristic of mature industrial society.

As long as countries were dominantly rural, urban centres small and the movement of population very restricted between either places or classes, public health was not an essential service. But when the nineteenth century saw the passing of all these conditions, public health became one of the fundamental services without which the modern industrial state could not function.

So far, the aims of public health could be adequately achieved through the use of the police power of the state. But it was one thing to enforce proper sanitary regulations and another to promote proper infant and maternal hygiene. This was the problem that faced public authorities when emphasis began to shift from the negative role of preventing the spread of disease to the positive role of developing healthy practices in the daily life of the individual. The new attitude called for public education, primarily, in the field of communicable diseases itself. The old scourges, like typhoid, had been brought fairly well under control by sanitary regulation and immunization. The most important diseases, remaining to be fought, such as tuberculosis and venereal disease, were only eradicable by the educational method. This is also true of public health problems whose importance has since developed, such as cancer, heart disease and the promotion of mental hygiene. As a result there has been a marked stressing of the field of "health education" and of such agencies as the public health nurse.

This positive attitude of the modern movement for public health has inevitably caused greater and greater emphasis on preventive medicine in a broad sense. The aim is not only to develop facilities for detecting illness in its earliest stages but also to scan critically the material and social environment for possible bad effects upon the public health. In a sense we are going back to Chadwick's concern with environmental conditions except that where he believed that people were poor because they were sick, we find increasing evidence that they are also sick because they are poor. Malnutrition, poor

and crowded housing, and overwork, especially on the part of the mother, are causes of illness beyond the limits of medicine in the accepted sense and link up the field of public health with the general field of welfare. Thus any steps - legislative, social or economic - that help do away with poverty, are fundamental contributions to the field of public health. The minimum wage and adequate housing may be as potent forces (1) for public health as vaccine.

The modern broad view of the scope of public health with its inevitable concern with the health of all classes in the state has led in Europe to the general introduction of compulsory health or sickness insurance for the wage-earning class, supplemented by other forms of social insurance such as maternity allowances and invalidity pensions. But these developments have not been accepted in Canada and the United States. The economic organization of medicine in these two countries shows an empirical development under various auspices - governmental, lay, religious and professional. However, the facts of low and intermittent income, high-speed industry that raises the "old at forty" problem with its attendant health aspects, drought and "rural slums", have caused a great deal of discussion in Canada about the organization of health and medical services. Whatever may be done in other directions, an extension of the public health services could do a great deal to meet these problems. The provision of free services for chronic and infectious diseases like tuberculosis and a growing interest in industrial hygiene are examples indicating that a trend to more widely conceived public health services is already under way.

(1) The effects of bad housing and low wages on health are discussed in Appendix to Housing by A. E. Grauer and Labour Legislation. Chapter 3, by A. E. Grauer.

Chapter 2 Governmental Organization for Public Health in Canada.

1. The Constitutional Allocation of Powers in the Field of Public Health:

In the light of historical background, it is obvious that the framers of the British North America Act in 1867 could have had no conception of the modern problems of public health, and it is not surprising, therefore, to find meagre reference to the public health in that document. The only specific delegations of responsibilities for health were that the Dominion Parliament was given jurisdiction over "quarantine and the establishment and maintenance of marine hospitals" (Sec. 91, ss.11); and the provinces jurisdiction over "the establishment, maintenance, and management of hospitals, asylums, charities, and eleemosynary institutions in and for the provinces, other than marine hospitals": (Sec. 92, ss.7). In addition certain responsibilities for health flowed from other specified powers as, for instance, those of the Dominion over Indians; militia, military and naval service; and the census of statistics. But the residuary power for public health has been generally accepted as being in the provinces by virtue of provincial jurisdiction over "property and civil rights in the province" and "generally all matters of a merely local or private nature in the province". (Sec.92, ss. 13 and 16).

Several organizations and some of the provinces have argued that, as public health was not mentioned specifically in sections 91 and 92 of the British North America Act, several aspects of public health are a Dominion responsibility under its residuary power because they are no longer matters of "a merely local or private nature in the province". New Brunswick, for instance, maintains that "The care and treatment of tuberculosis, of cancer, or leprosy, of venereal diseases, of other contagious and infectious diseases, of mental hygiene, of the feeble minded and of the insane, and other similar matters are far reaching in their effects and have become of interest to the nation... Our

submission is that such services can be more effectively carried on by the local administration of the Province but that the Province should have some fair adjustment made by the Dominion as compensation in respect of such expense so incurred".

Since the early days in Canada when legislation was of a panic type, - hastily enacted when epidemic raged or threatened, only to be forgotten when the danger had passed, - an imposing structure for the public health has slowly been built. Most of this structure lies in the provincial-municipal field, but all three levels of government participate.

2. The Provincial-Municipal Organization for Public Health.

Every province has a service specifically for the public health, although in some provinces it is much more adequate than in others. It is perhaps impossible to get away from this unevenness as long as some provinces are much less populous and poorer than others. This situation is complicated by the drought on the prairies. Under favourable conditions the Prairie Provinces are in a position to carry out an adequate programme of public health; but the variability of their income is such that their problems may require special financial treatment.

Five provinces, - Alberta, Saskatchewan, Ontario, Quebec, and Nova Scotia, - have separate Departments of Health or of Public Health. In British Columbia the work is carried out under the Provincial Secretary, in Manitoba through the Department of Public Health and Welfare, ⁽²⁾ in New Brunswick through the Department of Health and Labour, and in Prince Edward Island through the Department of Education and Public Health. Most of the

(2) There is some difference of opinion as to whether a Department of Health or a Department of Health and Welfare best suits current needs. Those in favour of the latter point out that in practice the fields of health and welfare are closely related and that the necessary co-operation can be better obtained when the two services are under the jurisdiction of one department. The medical profession is, on the whole, in favour of a separate department of health because, it says, the field of health is a distinct field and should be entirely under medical control up to the minister in charge of the department.

provinces have a Provincial Board of Health, or an equivalent, to act in an advisory capacity, but in British Columbia and Alberta it has a more positive role with executive and administrative powers. All the provincial departments have, of course, supervision over the municipal health organization.

The local organization for public health may be summarized as follows:

British Columbia.

Local boards of health, which consist of the councils of cities, towns, villages and municipalities, are responsible for the local administration of the Health Act and its regulations. An amendment to the Health Act in 1936 (S.46) gave authority to two or more municipalities and their respective school boards to establish a union board of health which would take full responsibility for the administration of health functions delegated to municipalities and to school boards under the Health Act and the School Act. This amendment was particularly designed to permit the City of Vancouver and several neighbouring municipalities to collaborate in the establishment of the Greater Vancouver Metropolitan Health Area which was set up in 1936. The participating municipalities and school boards now include those of Vancouver, North Vancouver City and District, Richmond and the University of B.C. District. Consequently, the greater part of the Vancouver Metropolitan Area is now under a unified system of public health administration. This scheme is made possible by grants from the Rockefeller Foundation for a limited period and from the provincial Board of Health. For a number of years the provincial board of health has encouraged the establishment of full-time health units and has obtained support from the Rockefeller Foundation for several of these. There are full-time services in the three rural districts of Saanich, Peace River and Kelowna, but there is as yet no full-time doctor in charge of the Matsqui-Sumas-Abbotsford area. Victoria has a full-time health officer, but otherwise, health officers throughout the province serve on a part-time basis.

Certain specialized services which were originally the responsibility of the local authorities under the broad provisions of the Health Act have now been taken over for all administrative purposes by the provincial government. These are notably tuberculosis control, venereal disease control and laboratory service, each performed by a division of the provincial Board of Health. While there is a general obligation upon the local Board of Health to take measures to deal with tuberculosis and venereal disease and to provide laboratory service if necessary, the fact that this work is actually done by divisions of the provincial Board of Health means that the local boards make little or no provision for tuberculosis, venereal disease and laboratory service.

Neither the provincial Board of Health nor the local Boards of Health have anything to do with the administration of mental hospitals (including psychiatric clinics), grants to and supervision of general hospitals or institutions for the chronically ill, which are separate branches of the Department of the Provincial Secretary.

The provincial Board of Health, which is the Cabinet and which in practice, therefore, works through the responsible minister, the Provincial Secretary, has full responsibility for health work in unorganized territory, administers certain services like tuberculosis control directly, and supervises the work of the local boards of health.

Alberta:

The local boards of health are created under the Public Health Act and are responsible for the enforcement of health laws and regulations in their respective municipalities.

The Provincial Board of Health is granted wide powers of supervision over the local boards. Edmonton and Calgary have full-time health services. There are two rural health districts with full-time staff that serve grouped rural municipalities and the towns and villages within their boundaries. All the remaining municipalities have part-time medical officers of health but in most only obligatory duties are performed. The Minister of Health is given power to declare any area a full-time rural health district. Under the Municipal Hospitals Act, a group of municipalities may combine to provide themselves with hospital facilities.

SASKATCHEWAN

The Council of each municipality is the Local Board of Health; in cities a committee of Council may be chosen. Each municipality must appoint a medical officer of health. The Minister of Public Health may prepare a scheme for organizing a number of adjacent municipalities into health districts suitably staffed. Such schemes must be approved by the municipal councils concerned. Under the Public Health Act, the Health Services Board is empowered to approve contracts made by municipal councils for medical, surgical, hospital, dental and nursing services and to supervise such schemes.

The provincial-municipal organization for public health in Saskatchewan warrants fuller treatment because of its particular development to meet the problems of a dominantly agricultural economy and thinly settled area. (3) From the first, sparsely settled wheat growing areas faced a difficult problem in supplying themselves with adequate medical and health services. In 1916, the Province recognized this situation and passed legislation which allowed a municipality to subsidize a

(3) For a full treatment of this question in its broader setting see G.E. Britnell's excellent study, *The Wheat Economy: A Study of the Economic and Social Development of Saskatchewan*, published by the University of Toronto Press.

doctor or nurse or both to attract them to the municipality. This device proved helpful to a number of municipalities and in 1919 rural municipalities were further empowered to employ a doctor full time at a maximum salary of \$5,000. Even this system, however, did not meet the needs of many less prosperous rural districts that could not attract a private doctor and were too poor to develop a municipal plan. The establishment of a full-time health unit by the Department of Health in cooperation with the Rockefeller Foundation in 1929, with headquarters at Gravelbourg, marked a further effort to meet the health problems of rural areas. Several rural municipalities and villages and one town were combined for health purposes comprising a total population of 22,000 of which more than 80% was rural. By this arrangement the whole area was able to obtain the full-time services of a medical health officer, a sanitary officer, a public health nurse and a secretary-technician. The cost of about \$14,000 was shared equally by the province and by the areas comprising the unit.⁽⁴⁾

The legislation of 1916 also allowed two or more municipalities to cooperate to organize and operate a union municipal hospital. This was found necessary because of the great distance separating many communities from hospital facilities. Some twenty-two union hospitals have since been built, usually financed by debenture issues. Expenses of operation are covered by the maintenance grant of fifty cents per patient per day paid by the Provincial government to all hospitals meeting certain requirements, by fees and by taxation. There is a good deal of variation in the extent to which hospital charges are met from local taxation or from fees charged to individual patients but in all cases the cooperating municipalities must make up any deficits.

(4) The health unit idea is, of course, not peculiar to Saskatchewan and is fully in accord with current principles of public health. It has seen its most extensive development in Canada in the Province of Quebec, where, however, a greater density of population makes the problem of organization and operation a rather different one.

Saskatchewan has for some years granted maternity allowances, which again reflects the fact that many families have very little cash income.

The two-fold impact of the depression and the drought made the problem of providing health services all the more complicated. The municipal doctor plan was extended because the private doctor in the drought area saw his income practically disappear.⁽⁵⁾ Over a hundred other rural municipalities give grants to physicians. Many rural municipalities, however, are in such a bad financial condition that they cannot afford to employ a doctor with the result that several doctors have had to leave their communities. The Gravelbourg health unit, situated in the centre of the drought area, ceased operation in 1932. Despite the increased need, provincial services such as were supplied by the Public Health Nursing Division had to be curtailed.

The inability of many rural districts to obtain ordinary health facilities even in good times plus the difficulties encountered over a much wider area during the depression has built up a strong sentiment for a system of state medicine for the whole rural population, a sentiment expressed by farmers' organizations, municipal associations and medical men.⁽⁶⁾ This would be an extension of steps towards state medicine already called forth by Saskatchewan conditions, such as the municipal doctor and the union hospital.

(5) According to the Submission of the Government of Saskatchewan (p.281) "... 78 municipalities either wholly or in part, are contained in 76 municipal physician schemes. These schemes serve a population of 153,354 or 26 per cent of the 650,690 people residing in rural municipalities and local improvement districts. In addition, 42 villages have made similar provision as well as 2 towns".

(6) See the Submission of the Government of Saskatchewan, pp.281-283. This submission appears to propose a scheme of National Health Insurance to take the place of the Saskatchewan system just described. However, it should be noted that health insurance is not state medicine and that a national scheme of health insurance, affecting chiefly industrial and urban workers, would be complementary to rural state medicine rather than a substitute for it.

MANITOBA

The Minister of Health and Welfare may, on the advice of the Provincial Board of Health, divide the Province into health districts and may appoint for each district a district health officer, public health nurses and sanitary inspectors. At the present time there are four health districts in Manitoba with full-time staff: City of Winnipeg, St. Boniface, St. James-St. Vital and Brandon. Each municipality not a part of a full-time health district must appoint a medical health officer whose duty it is to enforce the Public Health Act, its regulations, and any health by-laws. There are no local boards of health, except where full-time health districts have been created. Municipal doctors are allowed but are not numerous.

ONTARIO

Every municipality (not including counties) must have a local Board of Health. In health units (combined municipalities or counties) local boards are to be appointed under special provisions. Such boards shall "superintend and see to" the carrying out of the Public Health Act, its regulations and health by-laws. Every municipality must appoint a Medical Officer of Health who may or may not, as agreed, act as medical attendant for the indigent in his municipality. The local board may, by agreement with school boards, provide medical and dental inspection for school children. In addition to local services provided by the Provincial government, including the Eastern Counties Health Unit, there are ten cities which have full-time services. The remaining municipalities (approximately nine hundred) have part-time health officers.

No counties have as yet taken advantage of the statutory provision made in 1934 for the establishment of county health units. A government subsidy is provided for, but the extent of such aid is not defined. A demonstration unit covering four counties known as the Eastern Counties Health unit has been set up for a period

of five years (it is now in its fourth). Funds are being supplied by the Department of Health of Ontario and the International Health Division of the Rockefeller Foundation.

QUEBEC:

The Health Act declared existing local boards of health to be Local Boards of Health under the Act; and where none had existed previously the municipal council became the local board of health. Joint boards are permitted. Municipalities with over five thousand inhabitants, when not part of a county health unit, must organize and maintain a health service directed by a physician appointed by the Lieutenant-Governor-in-Council on the recommendation of the municipal council. The Lieutenant-Governor-in-Council may make an appointment, after due notice, where the council fails to make a recommendation. The Local Board of Health is an advisory body to the municipal council. It may directly enforce the Act and regulations, but this power is subject to veto by the council. However, an executive officer must be appointed to enforce the "decisions of the sanitary authority".

Under the Health Units Act of 1925, the existing units were declared permanent and the Lieutenant-Governor-in-Council was given power to create others as he deemed expedient. Districts included must pay annually to the Provincial Treasury $1\frac{1}{2}$ cents per \$100.00 of taxable value of property therein. Such units are under the direction and control of the Deputy Minister. The Medical Officers of Health are appointed by the Lieutenant-Governor-in-Council, other employees under the Outside Service Act.

Full-time health services are provided by the municipalities in Montreal, Quebec and a few other cities. The population of the rest of the province is served either by health units or through a district health organization, paid by and responsible to the Provincial Department. There are now thirty-six full-time health units, each staffed by a health officer holding a degree

in public health, three to five public health nurses, one sanitary inspector and one secretary.

Those parts of the Province not served as already described are divided into health districts which make no financial contribution for health to the Province and, therefore, receive only such supervision as may be given by an unassisted health officer who, however, must hold special qualifications and be a full-time employee.

In any discussion of the organization for health in Quebec, it should be remembered that the Church also plays an important role. The activities of the Church are discussed in Professor Minville's study of the social services of Quebec.

NEW BRUNSWICK:

The Minister of Health and Labour, subject to approval, may designate any area a health district, and shall appoint a District Medical Officer who must devote his whole time to the duty. The Province is now divided into ten health districts. Eight of the ten District Medical Health Officers hold diplomas in public health and six have also received special training in tuberculosis work. They conduct tuberculosis control, school hygiene and communicable disease control. Nominally, they are responsible for food and milk control, but untrained part-time sanitary inspectors are immediately responsible. The salaries and expenses of the District Medical Officers are paid by the Provincial Department of Health.

Sub-health districts may be created at the Minister's discretion and sixteen have been formed. Each sub-district has its own staff. In the cities, - Saint John, Moncton and Fredericton, - the staff of the sub-districts consists of a secretary, sanitary inspector and other food inspectors, all of whom are full-time officers. In the rural sub-districts, most of the staff are part-time. In these areas provision is made for boards of health. Municipal Councils must provide the funds required by the sub-district boards for the performance of

their duties, namely, enforcement of the Health Act and related acts, and regulations under them.

NOVA SCOTIA:

County Boards of Health may be created by the Lieutenant-Governor-in-Council, subject to recommendation of the municipalities, but with one exception, local authorities have not taken advantage of this permissive legislation. Municipalities, not part of a county scheme, must have local boards of health to enforce the provisions of the act through a Medical Health Officer. Sanitary inspectors must also be appointed. No part of the cost of local boards of health is met by the Provincial government.

The Province may be divided into health districts by the Lieutenant-Governor-in-Council and he may appoint Divisional Medical Health Officers. The Deputy, as Provincial Health Officer, may exercise the powers and authorities of any local board or medical health officer. Subject to approval, he may appoint public health nurses.

Existing local services for public health are made up of those provided by the cities of Halifax and Sydney, two Divisional Health Officers, and a full-time county health service. Elsewhere, the service is provided by part-time medical officers and sanitary inspectors.

An Experimental Health Unit is now being established in four counties by the Department of Public Health with the purpose of determining if the unit system is the one best adapted to the health needs of the Province.

PRINCE EDWARD ISLAND:

The City of Charlottetown constitutes one health unit; elsewhere school districts are declared to be health districts and the school trustees constitute the local board of health. Power is given to local boards to make regulations affecting their own districts and they must enforce all health laws and regulations. None of the health districts has a full-time service.

3. The Dominion Organization For Public Health:

The Dominion Department of Health was established (7) in 1919. By this time a growing population, increasing and more rapid facilities for travelling, the stimulus of the Great War and a feeling that provincial health services needed co-ordination, all helped create a sentiment for a national service for public health.

Section 4 (a) of the Health Act specifies -

"Co-operation with the provincial, territorial, and other health authorities with a view to the co-ordination of the efforts proposed or made for preserving and improving the public health, the conservation of child life and the promotion of child welfare".

But Section 7 makes it clear that no idea of giving Dominion health officers jurisdiction over provincial or municipal Boards of Health was intended. The machinery for co-ordination was set up in Section 6 of the Act which created a -

"Dominion Council of Health, consisting of the Deputy Minister of Health, who shall be Chairman, the chief executive officer of the Provincial Department or Board of Health of each Province, and such other persons, not to exceed five in number, as may be appointed by the Governor-in-Council, who shall hold office for three years. The Dominion Council shall meet at such times and places as the Minister may direct, and shall be charged with such duties and powers in respect to this Act as the Governor-in-Council may prescribe".

Certain existing Dominion health services were brought together under the new Department and it was made responsible for the inspection and medical care of immigrants and seamen and the administration of marine hospitals; the supervision, as regards public health, of railways, boats, ships and all other methods of transportation; the supervision of federal public buildings and offices, with a view to conserving and promoting the health of the civil servants and other government employees therein; enforcement of rules and regulations concerning boundary waters, so far as they

(7) With the enactment of the Department of Pensions and National Health Act in 1928, the Department ceased to exist as a separate Department but most of its functions continued.

concern public health; the administration of the Food and Drugs Act, the Opium and Narcotic Drug Act, the Quarantine Act, the Public Works Act, the Leprosy Act and the Proprietary or Patent Medicine Act.

New branches were created to deal with venereal disease control, child welfare, publicity and statistics, and housing; and later laboratory and hygiene, and public health engineering were added. Publicity and statistics, housing, venereal disease control and child welfare were subsequently discontinued on the grounds of economy, but the Division of Child and Maternal Hygiene has again been recreated, a step warranted by the rather high rate of maternal mortality in Canada. Recently too, Divisions of Epidemiology and Industrial Hygiene have been formed and arrangements have been made for the establishment of a Division of Publicity.

The venereal disease programme was significant because it gave conditional grants to the provinces, the conditions being; first, the provision of equivalent sums by the provinces; second, a provincial programme satisfactory to the Dominion Department. The scheme went a good way towards its objective of a national co-ordinated programme to eradicate venereal disease as far as possible, but the Dominion government grant terminated in 1932.

Other departments of the Dominion government are also concerned with the public health. The Department of Agriculture carries out health activities such as the inspection of meat and the control of communicable disease among domestic animals; and the Department of Fisheries looks after certain minor health matters. The Department of Mines and Resources has quite important health functions, chiefly supervision of the health of Indians and sanitation on reserves, supervision of the health of Eskimos, assistance to hospitals for the care of Indians and Eskimos, and town planning and sanitation within the National Parks.

To round out the picture, mention should be made of

national voluntary health agencies in receipt of government grants. These are the Canadian Tuberculosis Association, the St. John Ambulance Association, the Canadian Dental Hygiene Council, the Victorian Order of Nurses, the Canadian Red Cross Society, the Canadian Welfare Council, the Canadian National Institute for the Blind and other organizations for the blind, the Health League of Canada, and the Canadian National Committee for Mental Hygiene. These organizations have done a great service in instigating and promoting interest in various important problems of public health. One of their great assets is that they feel much freer than governmental departments to organize a definite campaign of publicity and education to achieve health objectives.

Chapter 3 - The Scope and Adequacy of Existing Services for Public Health.

Within the framework of this Dominion-Provincial-Municipal organization, what public health services are being offered and how adequate are they? In answering these questions we shall review the Canadian services under the classifications commonly accepted for standard public health services. The purely descriptive parts of this review will be found in Appendix I.

A. Vital Statistics.

Although vital statistics as such are very good in Canada chiefly through the work of the Dominion Bureau of Statistics and the co-operation of the provinces, statistics of public health in a broad sense are inadequate. The main weakness lies in municipal statistics. Most provinces have not been very alert in obtaining information from the municipalities. On the side of costs an almost insuperable difficulty at the present time is that the municipalities have not had a uniform system of classifying their accounts. It would be desirable to bring about a common accounting system at the earliest possible time because until there is certainty about the basic statistics, policy will always be in part a matter of guesswork.

Table I, shows the total and per capita expenditures on vital statistics in the provinces for the year 1936-37.

Table I.

Expenditures on Vital Statistics in
The Provinces, 1936-37. (a)

	<u>Total Expenditures</u>	<u>Per Capita</u>
British Columbia	\$ 23,000	.031
Alberta	18,900	.025
Saskatchewan	19,900	.021
Manitoba	11,000	.015
Ontario	53,000	.015
Quebec	31,000	.01
New Brunswick	3,400	.0077
Nova Scotia	12,000	.022
Prince Edward Island	<u>355</u>	<u>.0066</u>
Total	<u>\$ 172,555</u>	<u>.0156</u>

(a) Based on reports of the provincial departments concerned.

B. Control of Communicable Disease.

Two communicable diseases, venereal disease and tuberculosis, are so important as to warrant separate treatment. Generally speaking, organization for the control of other communicable diseases is adequate in Canada, but diseases like measles and infantile paralysis have not yet been brought under control even to the extent that modern technical knowledge permits. Perhaps the chief weakness in the control of communicable disease is the fact that local health services are often inadequately staffed and the personnel unqualified.

(i) Tuberculosis

Tuberculosis is an unusually costly infectious disease because it requires treatment in a sanatorium for at least a year and the average amount of time lost is about two years. It has a disastrous effect upon the family where the wage earner is affected and it is precisely during the wage-earning years that

(8)
tuberculosis strikes most often. If the worker continues working because he feels he cannot afford to take off the long period necessary for treatment his early death will leave his family public charges. If he goes into a sanatorium his family will probably be public charges in the meantime. Obviously the latter course is both desirable socially and cheaper for the state in the long run, but even more desirable is the availability of widespread facilities for diagnosis because if the disease is caught in its earliest stages both the length of treatment and the eventual effect on the physique of the patient and therefore on his employability can be greatly reduced. A full programme of tuberculosis control including prevention, although necessitating higher outlays for the present, will therefore effect definite and immediate savings of both a social and monetary nature.

A striking feature of tuberculosis in Canada is the high rate in Quebec and the Maritimes, with Quebec having the highest rate of any province. Of the total deaths from tuberculosis in Canada, exclusive of Indians, 62% occur in these two areas, which contain about 37% of the population. Statistics given in Table 2, (which cover both provincial and municipal expenditures) would seem to show that the rate is high in Quebec partly because less money per capita is being spent on diagnosis, treatment and preventive work. New Brunswick and Nova Scotia, however, compare favourably with the other provinces in their total per capita expenditures. This statement is equally true when provincial expenditures alone are taken (Table 4). The chief difficulty in these two provinces seems to be the prevalence of low incomes in certain districts. In New Brunswick for instance, where the cost of tuberculosis is shared about equally by the province and the municipalities, the rate of tuberculosis is exceptionally high in the poor northern and eastern municipalities. The death rate per one hundred thousand of population in selected counties for 1936-37 ran as follows:

(8) Tuberculosis caused the death of 6,763 Canadians in 1936, of whom 748 were Indians. It was the first cause of death for the age group from 15 to 45 years.

TABLE 2

(a)
STATISTICS REGARDING TUBERCULOSIS CONTROL IN CANADA, 1936 - 37

	Rate of deaths per 100,000 population		Ratio of Beds per death (b)	Per Capita Expenditure on treatment and prevention (c)	Mothers' Allowances for cases of tuberculosis (d)
	White	Indian Total			
PRINCE EDWARD ISLAND	65	429	66	.98	39¢ No allowances.
NOVA SCOTIA	89	319	90	1.11	74 \$21,600
NEW BRUNSWICK	80	534	82	1.13	73 No allowances.
QUEBEC	92	319	93	.6	42 (Estimate) No allowances.
ONTARIO	33	362	36	2.41	65 \$495,635
MANITOBA	37	1,040	59	1.6	72 \$ 62,219
SASKATCHEWAN	22	485	30	2.53	77 No figures available.
ALBERTA	29	1,036	49	.86	55 No figures available.
BRITISH COLUMBIA	52	752	75	1.36	95 \$ 44,190
CANADA	55	631	61	1.25	

(a) Chiefly from the Memorandum submitted by the Canadian Tuberculosis Association to the Royal Commission on Dominion-Provincial Relations. For 1937-38, the per capita expenditures of Nova Scotia (84¢) and New Brunswick (77¢) increased markedly.

(b) The desirable ratio of beds per annual death is 2 to 2.5: 1.

(c) Includes both Provincial and Municipal expenditures, private donations and receipts from paying patients.

(d) All the provinces but Quebec, New Brunswick and Prince Edward Island have mothers' allowances. They are granted, among others, to wives whose husbands have died from or (in some cases) are disabled by tuberculosis, for the bringing up of dependent children. Quebec announced the introduction of mothers' allowances in 1938.

Kent	- 164
Gloucester	- 132
Fredericton	- 71
Charlotte	- 71
Queen's	- 34
King's	- 29

The poorest municipalities, therefore, have by far the highest rates for tuberculosis; but they find it impossible to pay for all the cases that should be receiving treatment, and as a result they continue to have high rates. Thus the root of the trouble is poverty. The rate is low in the well-to-do counties of the St. John River Valley, unusually high in the poverty stricken counties of the north and east. A similar situation exists in Nova Scotia. This condition would be overcome if the provinces paid the whole cost as in Ontario, but they do not feel able to carry additional financial burdens. The Canadian Tuberculosis Association suggests grants-in-aid to the provinces with the highest rates of tuberculosis, especially, as in Nova Scotia and New Brunswick, where they are already spending as much per capita as the provinces with a low rate. Table 3 discloses another aspect of the situation. It shows that the length of time elapsing between diagnosis and admission to sanatoria is much longer in the Maritimes than in the western provinces. All the sanatoria in the Maritimes have waiting lists. This condition has resolved itself into a vicious circle because the more advanced cases are the first to be admitted when space is needed and they are the ones that require longest treatment. Consequently insufficient bed accommodation is complicated by a slow rate of turnover, and in the meantime the minimal cases may not be receiving adequate attention and tend to become far advanced.

An entirely free service has been introduced by three provinces. Alberta, Saskatchewan and now Ontario provide free service on the grounds that the number of paying patients always was insignificant. Free service is the greatest possible incentive for people to take treatment and thus allows the province to make indirect savings through such factors as the smaller spread of infection. In Saskatchewan, before the free service was

THE HISTORY OF THE
CITY OF BOSTON

From the first settlement of the Puritans in 1630 to the present time, the city of Boston has been a center of political, intellectual, and religious activity. The early years were marked by the struggles of the settlers against the hardships of a new land and the opposition of the Native Americans. The city grew rapidly, and by the middle of the 17th century it was one of the largest and most important cities in the colonies. The Boston Tea Party and the subsequent British occupation of the city in 1768-1769 were pivotal events in the American Revolution. The city's role in the Revolution was significant, and it was the birthplace of many of the nation's leaders, including John Adams, Samuel Adams, and James Otis. In the 19th century, Boston became a center of the abolitionist movement, and the city's public schools were the first to be established in the United States. The city's architecture, including the Old State House and the Faneuil Hall, is a testament to its rich history. Today, Boston is a major center of commerce, education, and culture, and its history continues to shape its identity.

T A B L E 3.

TIME ELAPSED BETWEEN DIAGNOSIS FOR TUBERCULOSIS
AND ADMISSION TO SANATORIA, 1936 (a)

	Prince Edward Island		Nova Scotia		New Brunswick		Quebec		Ontario		Manitoba		Saskatchewan		Alberta	
Admitted within one month of diagnosis	3,118 62.3	8 28.6	144 42.2	121 45.1	834 52.2	1,181 67.8	308 74.0	359 86.1	163 80.7							
Admitted from one to three months after diagnosis	865 17.3	7 25.0	89 26.1	65 24.2	331 20.8	272 15.6	47 11.3	34 8.2	20 9.9							
Admitted from three to six months after diagnosis	326 6.5	4 14.3	37 11.1	33 12.3	133 8.4	90 5.2	16 3.8	7 1.7	6 3.0							
Admitted from six to twelve months after diagnosis	215 4.3	5 17.8	28 8.2	17 6.3	83 5.2	58 3.3	16 3.7	3 0.7	5 2.5							
Admitted more than one year after diagnosis	478 9.6	4 14.3	43 12.6	32 11.9	208 13.1	140 8.0	29 6.9	14 3.4	8 4.0							

(a) From a survey made by the Canadian Tuberculosis Association.

introduced, only about 2.5% of the patients treated were paying patients; and in a wealthy province like Ontario only about 5%.

It is apparent from Table 2 that in most provinces some capital outlay for greater bed accommodation is necessary if control is to be effectively exercised. Saskatchewan and Ontario are the only provinces that meet ordinarily accepted standards at the present time. There is some evidence, however, that sound organization and the extension of outpatient facilities make it possible to deal effectively with the tuberculosis problem with a smaller number of beds than the standard ratios postulate. This seems to be the experience of British Columbia where a thorough-going reorganization of tuberculosis control under competent leadership has taken place during the past few years. Tuberculosis officials in that province believe that in spite of the low bed ratio (at present about 1.4:1) they have practically enough beds. Although the ratio of known cases to deaths in B.C. is one of the highest in North America, 9 to 1, there were a few vacancies in institutions during 1938. The acute pressure upon beds that was prevalent in B.C. a few years ago has been relieved by greatly improved organization to deal with tuberculosis through the central control and unification of all facilities under the Division of Tuberculosis Control. Central control of all admissions and discharges, use of a province-wide corps of social workers, establishment of stationary and travelling clinics to cover the whole province, prompt hospitalization of minimal cases, use of foster homes, etc., have made possible much faster clearance of patients and greatly increased bed turnover. If the experience of British Columbia could be repeated elsewhere, this would represent a more economical method of attacking the problem than building bed accommodation up to the standard requirements.

A most important aspect of the tuberculosis situation in Canada is the problem of control among the Indians. This problem is of special concern to the four western provinces and Ontario, where most of the Indian population is concentrated. The Indians are the responsibility of the Dominion Parliament under the British North

America Act and their affairs are administered by the Department of Mines and Resources. The Dominion government has never given the Indian the same facilities for diagnosis and treatment as the provinces have given the white population. The death rate for Indians from tuberculosis is twelve times that of the white population. This is a matter of concern to the white as well as to the Indian because infection is spread from the Indian reserves. The most effective and least costly way of handling this problem is to make arrangements with Ontario and the four western provinces to include the Indian within their very efficient programmes of tuberculosis control. This solution, which of course necessitates some monetary adjustment, has already been experimented with and should be made a permanent arrangement with all the provinces.

Table 4 gives the expenditures of provincial governments on tuberculosis over a period of years. In Nova Scotia and New Brunswick, the depression caused a slight decrease in expenditures; while in Alberta and British Columbia a decrease was followed by a sharp increase when the value of preventive work became more clearly realized. The reorganized attack on tuberculosis in British Columbia is already showing results. The known tuberculosis cases in January 1936, were more than twice what they were previously; and the "far advanced" cases admitted to institutions by March 1937 were only 35% of the total number of new patients compared with 75%

TABLE 4

EXPENDITURES ON TUBERCULOSIS BY PROVINCIAL GOVERNMENTS OVER

A PERIOD OF YEARS (a)

As at fiscal year ending nearest to 31st December (Thousands of Dollars)

	1913	1926	1929	1931	1933	1935	1936
PRINCE EDWARD ISLAND							
Grants to Provincial Sanatorium	-	-	-	8	18	18	18
Per Capita Expenditure				9¢	20¢	20¢	19¢
NOVA SCOTIA							
Sanatoria		85	156	188	169	158	130
Per Capita Expenditure		16¢	30¢	36¢	32¢	30¢	24¢
NEW BRUNSWICK							
Sanatoria	11	36	57	77	57	75	63
Treatment of patients in hospitals		9	52	72	66	77	79
Prevention (excluding Sanatoria)		4	12	13	10	-	-
Total	11	49	121	162	133	152	142
Per Capita Expenditure	3¢	13¢	30¢	40¢	31¢	35¢	33¢
QUEBEC							
Sanatoria	(b)	119	137	266	365	395	462
Prevention (excluding Sanatoria)	11	115	90	75	60	59	60
Total	11	234	227	341	425	454	522
Per Capita Expenditure	$\frac{1}{2}$ ¢	9¢	8¢	12¢	14¢	15¢	17¢
ONTARIO							
Prevention (excluding Sanatoria)					10	35	47
Grants	73	382	468	585	482	965	838
Total	73	382	468	585	492	1,000	885
Per Capita Expenditure	3¢	12¢	14¢	17¢	14¢	27¢	26¢

(a) Based on the Public Accounts Inquiry of the Royal Commission on Dominion-Provincial Relations.

(b) Not available.

TABLE 4 (Cont'd)

EXPENDITURES ON TUBERCULOSIS BY PROVINCIAL GOVERNMENTS

OVER A PERIOD OF YEARS

Thousands of Dollars

As at fiscal year ending nearest to 31st December

	1913	1926	1929	1931	1933	1935	1936
MANITOBA							
Sanatoria		130	143	95	132	133	149
Per Capita Expenditure		20¢	21¢	14¢	18¢	18¢	21¢
SASKATCHEWAN							
Grants to Sanatoria		187	214	293	286	277	282
Per Capita Expenditure		23¢	24¢	32¢	30¢	30¢	30¢
ALBERTA							
Sanatoria		105	124	100	83	103	238
Per Capita Expenditure		17¢	18¢	13¢	11¢	13¢	30¢
BRITISH COLUMBIA							
Sanatoria, Grants to Hospitals & Prevention		287	398	339	278	327	375
Per Capita Expenditure		47¢	60¢	49¢	39¢	45¢	50¢
TOTAL ALL PROVINCES	95	1,459	1,851	2,111	2,016	2,622	2,741
Per Capita	1½¢	15¢	18¢	20¢	19¢	24¢	25¢

(c) During the years 1935 and 1936 a provincial program of reorganization was in process and the figures reported in the public accounts for British Columbia do not tell the full story. The figures used in this table were supplied by the Department of the Provincial Secretary and are complete.

before the campaign was commenced. These figures are illustrative of the preventive results of a well organized programme of tuberculosis control.

(ii) Venereal Disease

Venereal disease often has end results like general paralysis of the insane which require the institutionalization of the person affected. Dr. Thomas Parran, Surgeon General of the Public Health Service of the United States estimates that every year \$31,400,000 is spent in that country for the care of the syphilitic insane and another \$10,000,000 for the care of the syphilitic blind. This does not include the cost of the care of the 40,000 who die annually of syphilitic cardiac condition, nor the cost of the 160,000 who are treated annually for the syphilitic heart disease; nor the half million new cases of syphilis reporting for treatment each year. Syphilis afflicts 60,000 new born infants yearly. It is the largest cause of still birth and is the reason for the death of many infants in the first week of life. Similar statistics do not exist for Canada but there is no doubt that a serious situation exists here too. Consequently a complete programme of venereal disease control by detecting the disease in its early stages and by educating the general public, will, over a period of years effect direct governmental savings in institutional and hospital costs, in mothers' allowances, old age pensions and poor relief.

Other countries have had great success with energetic programmes for the control of venereal disease. In Sweden for instance, for every one hundred thousand of population there are annually only seven new cases of syphilis. In Denmark there are 20; in Great Britain 47; and in the United States 796. In every country the programme has been nationally directed and partly financed by the central government.

The remarkable results in Sweden were obtained after national legislation was introduced in 1918 to combat venereal disease. Some of the fundamental principles of the existing Act are, first, free medical treatment for all persons suffering from venereal disease. In the cities such treatment is given in clinics staffed with specially trained doctors; elsewhere, it is given by

practising physicians. The state pays the medical practitioners for their services and defrays the cost of necessary medicines, etc. Any other costs are paid by local authorities. Second, compulsory powers are provided to force venereally infected persons to follow the doctor's orders. Third, state aid is given for a national programme of education about venereal diseases. Fourth, changes in the Penal Code make the transmission of venereal diseases subject to a minimum penalty of fifty kroner and a maximum of two years' hard labour.

In the United States the LaFollette-Bulwinkle Bill was recently passed by Congress to bring about a thoroughgoing programme for the control of venereal disease. By this Act the federal government appropriated \$3,000,000 for 1938-39; \$6,000,000 for 1939-40; \$12,000,000 for 1940-41; and \$25,000,000 for each of the ten fiscal years thereafter. The Surgeon General is empowered to allot these sums to the several states upon the basis of, (1) the population, (2) the extent of the venereal disease problem and (3) the financial means of the respective states. A Federal Division of Venereal Diseases is established in the Bureau of the Public Health Service and provision is made for a full programme of research, publicity and education.

In Canada, statistics in this field are incomplete because an indeterminate number of people are treated by private doctors who often do not report the cases. All evidence, however, points to the conclusion that the campaign inaugurated in 1919 was very successful in getting patients treated early and in effecting some measure of control over the diseases. Hospitals and other institutions like gaols which conduct routine Wasserman tests show a consistent and marked decline in the percentage of people admitted who react positively. A very important result of the grant was the enactment of basic provincial legislation in this field. Every province but Quebec has on its statute books a standard act modelled on the Ontario legislation of 1918. These statutes recognized venereal disease as a serious communicable disease; required its reporting by physicians to medical officers

of health; gave new powers to medical officers of health and made possible the creation of entirely new machinery which has assisted materially in the development of a co-ordinated programme in the Dominion. Quebec is the only province where a person with venereal disease cannot be compelled to take (9) treatment.

Despite these improvements, Canada is not one of the progressive countries in the control of venereal disease. In the last year of the venereal disease grant in 1932, the Dominion Department of Health reported that "Venereal diseases are at least being better controlled year by year but a marked lowering of incidence cannot be hoped for until such time as the general public is better educated in the matter and eventually demands that the present day scientific knowledge with regard to these diseases be wholly put into operation, both for the benefit (10) of the present generation and for posterity". The statistics for venereal diseases at the present time are shown in Table 5. It is dangerous to deduce that there is a downward trend because the decline since 1934 may simply mean that, with better times, more people attend private doctors rather than provincial clinics. A cautious estimate of the total number of venereal disease cases in Canada during the sixteen year period, 1921-1936, is 937,785. Table 6 gives the absolute and per capita expenditures of the nine provinces on venereal disease control for the year 1936-37.

(9) The Montreal Health Survey Committee, "Survey of Public Health Activities" (1928) reported, "in 1925 out of 160 new cases of syphilis registered at the men's clinic (of the Montreal General Hospital), 14 attended regularly, 137 dropped out, of whom 23 attended once, 12 twice, 12 three times and 15 four times only. In 1925, out of 423 new cases of gonorrhoea registered at the men's clinic, 23 attended regularly, 86 attended once, 58 twice, 44 three times, 31 four times only. These figures, it would seem, are sufficient to prove that cases do not continue treatment, and so they are a public menace". p. 60.

(10) Department of Health Annual Report, 1932, p. 127.

T A B L E 5.

NUMBER OF CASES OF VENEREAL DISEASE TREATED IN PROVINCIAL
CLINICS ANNUALLY FOR THE PERIOD 1932-1936 (1)

	1932	1933	1934	1935	1936
British Columbia	2,506	2,612	2,810	2,724	2,649
Alberta	2,003	2,136	2,183	2,135	2,123
Saskatchewan	1,786	1,856	1,740	1,789	2,151
Manitoba	1,633	1,344	1,381	1,308	1,326
Ontario	11,642	12,097	10,216	10,949	10,005
Quebec	13,917	13,883	12,025	10,953	8,586
New Brunswick	1,146	1,155	1,030	1,055	1,077
Nova Scotia	1,371	1,208	1,073	1,050	995
Prince Edward Island	162	188	140	118	129
TOTAL	36,166	36,479	32,593	32,081	29,041

(1) Based on figures of the Department of Pensions and
National Health.

T A B L E 6.

EXPENDITURES ON VENEREAL DISEASE CONTROL IN THE PROVINCES,
1936 - 1937. (a)

	<u>Expenditure</u>	<u>Per Capita</u>
British Columbia	\$ 44,000	\$.059
Alberta	19,600	.025
Saskatchewan	22,900	.025
Manitoba	12,000	.017
Ontario	56,000	.015
Quebec	40,000	.013
New Brunswick	9,800	.023
Nova Scotia	14,000	.026
Prince Edward Island	<u>1,200</u>	<u>.013</u>
TOTAL	<u>\$219,500</u>	<u>\$.020</u>

(a) Based on reports of the provincial departments concerned.

Present needs in the field of venereal disease are indicated by the resolutions passed at three regional conferences of clinicians dealing with various phases of venereal diseases held in Edmonton, Montreal and Toronto in 1931, the last year of the Dominion grant. The chief needs expressed were as follows:

- (1) more clinics, and more attention to the provision of treatment by private physicians;
- (2) more personnel, especially in the larger clinics.
It was felt that a great deal of educational work, valuable from the preventive point of view, was not being done because of lack of personnel.
- (3) reasonable remuneration for clinic personnel, especially by giving time and facilities for study and methods of treatment. A large number of physicians were giving their services gratuitously.
- (4) the extension of hours of treatment in clinics to enable people to obtain treatment in hours off duty;
- (5) the provision of facilities for the treatment of infected persons, especially women and children, living in sparsely settled areas of the country;
- (6) more attention to the reporting and following up of venereal disease cases; the investigating of contacts is most important;
- (7) more intensive venereal disease propaganda by means of lectures, moving pictures, literature and public addresses, etc.

The need for unceasing educational work and at the same time for the greatest possible consideration in clinics is shown by the findings of a recent survey of a group of unemployed men. "It became evident, in the course of the examinations, that some of the men with venereal disease placed great dependence on the efficacy of some patent medicine or nostrum which could be secured at a drug store. In this more than most fields of medicine, the pharmacist is frequently the medical adviser. But in too many cases he may be little more than an untrained clerk. It appears also that the conscientious physician, who emphasizes the need

for prolonged treatment and follow-up so as to be on the safe side, albeit at some cost to his patient, becomes the target for a great deal of adverse criticism. On the other hand, it is clear that to be successful, a preventive service must be more considerate of the individual. Those who, for financial reasons, attend clinics resent the publicity incurred. Especially do they resent having to wait for a long period of time, usually as one of a large number, and having their names called out by someone who appears to them to be an officious orderly."⁽¹¹⁾

At the present time these various needs are still unfilled. Until they are met, Canada will not have a first-rate programme for the control of venereal disease. But a first-rate programme will cost money. The estimated expenditures for the fiscal year 1937-38 in British Columbia, which is making a determined effort to control venereal disease, are \$79,640, as compared with \$29,830 spent during the fiscal year 1935-36. Even so, moderate increases in expenditures over the period of the next two or three years will be necessary to ensure a first class programme. Sums spent on problems of public health are not large when compared with other governmental expenditures and in view of the importance of the problems. But with the control of venereal disease as with other aspects of public health, it is the contention of many provinces that the basic difficulty is a financial one, that they would be willing to go ahead with a really effective programme if the financial factor could be met.

(11) L.C. Marsh, Health and Unemployment, 1938, p.81.

C. "The Hygienes".

Maternal hygiene, infant hygiene, pre-school hygiene, and school hygiene are commonly associated, although they may be set up as separate divisions depending upon the size of the health department and the type of work it stresses. It is obvious that these fields are of fundamental importance and that they directly condition the health of the future adult population.

All would agree that "No health problem can be of (12) greater consequence to a nation than maternal and infant welfare". In Canada, statistics show that protection of the health of mothers and young children is not as good as current standards of public health call for. Table 7 gives the rate of maternal deaths per 1,000 live births, province by province.

Table 7.

Rate of Maternal Deaths in Each Province
per 1,000 Live Births, 1933-1936, and Five
Year Averages for 1926-30 and 1931-35 (a)

<u>Year</u>	<u>PEI.</u>	<u>NS.</u>	<u>NB.</u>	<u>Que.</u>	<u>Ont.</u>	<u>Man.</u>	<u>Sask.</u>	<u>Alta.</u>	<u>BC.</u>	<u>CANADA</u>
Av.1926-30	4.6	5.5	6.2	5.2	5.8	5.6	5.9	6.6	6.1	5.7
Av.1931-35	5.1	5.1	5.5	5.1	5.3	4.4	4.5	4.5	5.3	5.1
Totals,1933	4.1	4.7	6.0	5.0	5.4	4.1	4.6	4.5	4.7	5.0
Totals,1934	5.1	6.2	5.1	5.5	5.6	3.8	4.4	5.0	5.1	5.3
Totals,1935	4.0	5.3	4.6	5.4	5.0	4.2	4.1	4.3	5.2	4.9
Totals,1936	5.6	4.3	6.6	6.0	5.7	5.4	4.5	5.8	4.7	5.6

(a) Canada Year Book, 1937, p.187.

Table 8 compares the trend of maternal mortality in Canada with that of certain other countries over a ten year period. It can be seen that about two-thirds of the countries have lower death rates than Canada, some of them distinctly lower.

(12) J. Munro Kerr, Regius Professor of Midwifery, University of Glasgow.

TABLE 8

TRENDS IN MATERNAL MORTALITY IN CANADA AND CERTAIN OTHER COUNTRIES - 1926-35 (a)

Country (b)	Maternal Deaths per 10,000 Live Births										
	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	
Uruguay.....	30	22	24	24	31	24	--	24	23	--	
France.....	25	29	29	30	27	25	26	--	25	--	
Japan.....	27	28	28	28	27	27	25	25	28	26	
Norway.....	32	25	30	36	30	27	26	28	29	28	
Italy.....	26	26	28	29	27	28	30	--	27	30	
Netherlands.....	29	29	34	34	33	32	30	32	32	30(c)	
Newfoundland.....	47	51	36	56	53	64	52	45	59	32	
Sweden.....	29	28	33	38	35	37	34	--	33	--	
Spain.....	38	39	40	36	36	38	35	36(c)	--	--	
England and Wales.....	41	41	44	43	44	41	42	45	46	41	
Belgium.....	62	57	60	62	52	49	48	51	54	42	
Hungary.....	32	30	34	34	36	37	37	32	38	42	
New Zealand.....	42	49	49	48	51	48	41	44	49	42	
Switzerland.....	44	37	44	46	43	44	44	46	46	45	
Czechoslovakia.....	34	36	42	43	41	41	43	48(c)	48(c)	46(c)	
Irish Free State.....	49	45	49	41	48	43	46	44	47	47	
Union of South Africa (Whites).. CANADA.....	46 57	48 56	50 56	53 57	53 58	47 51	53 50	48 50	60 53	47 49	
Germany.....	49	52	55	55	54	51	53	--	49	49	
Greece.....	59	61	66	71	58	56	56	--	50	--	
Australia.....	53	59	60	51	53	55	56	51	58	53	
Northern Ireland.....	56	48	52	49	53	51	53	54	63	55	
Salvador.....	56	63	56	53	48	56	65	--	52	55	
United States.....	66	65	69	70	67	66	63	62	59	58	
Scotland.....	64	64	70	69	69	59	63	59	62	63	
Lithuania.....	56	50	50	57	60	62	55	61	67	71	
Chile.....	58	58	59	78	68	75	71	84	91	85	

(a) Based on figures of the Dominion Bureau of Statistics.

(b) Denmark and Finland have low rates of maternal mortality but have not been included because of doubts as to the basis of computation.

(c) Preliminary figures.

Table 9 lists infant death rates in Canada per 1,000 live births province by province for the years 1931 to 1936;

Table 9.

Death Rates of Infants in each Province and Canada per 1,000 Live Births, 1931-1936 and Averages for 1921-25; 1925-30 and 1931-35(a)

<u>Year</u>	<u>PEI.</u>	<u>NS.</u>	<u>NB.</u>	<u>Que.</u>	<u>Ont.</u>	<u>Man.</u>	<u>Sask.</u>	<u>Alta.</u>	<u>BC.</u>	<u>CANADA</u>
Av.1921-25	77	94	105	(b)	83	84	83	86	61	(b)
Av.1926-30	71	85	101	127	74	72	73	75	55	93
Av.1931-35	67	73	82	98	61	61	62	60	46	75
1931	68	79	87	113	70	64	69	69	49	85
1932	65	73	72	94	62	59	63	59	47	73
1933	61	71	82	95	60	63	61	60	46	73
1934	67	71	86	97	57	55	55	55	43	72
1935	72	72	83	92	56	63	61	58	46	71
1936	69	66	77	83	55	61	54	60	44	66

(a) Canada Year Book 1937, p.181

(b) Quebec was not included in the registration area prior to 1926.

Table 10 gives the countries that have a lower rate of infant mortality than Canada. The lowest rate is less than half that of Canada. Here again, it is apparent that Canada has a considerable distance to go before its rate of infant mortality is as low as that of the most progressive countries

It is an interesting fact that the rate of infant mortality is lower in the cities than elsewhere. The following figures per 1,000 live births are for 1934, with the provincial figure stated in brackets in each case:

Montreal	89 (97)
Toronto	49 (57)
Winnipeg	42 (55)
Regina	44 (55)
Calgary	41 (55)
Vancouver	25 (43)

These figures would appear to reflect inadequate health services in the rural districts.

Table 10.

Infant Mortality per 1,000 Live Births in
Countries with a Lower Rate than Canada,
And in the Canadian Provinces. (a)

Country	Year	Rate of Infant Mortality	Provinces of Canada	Year	Rate of Infant Mortality
New Zealand	1934	32	British Columbia	1935	46
Norway	1934	39	Ontario	1935	56
Netherlands	1934	43	Alberta	1935	58
Australia	1934	44	Saskatchewan	1935	61
Switzerland	1934	46	Manitoba	1935	63
Sweden	1934	47	Nova Scotia	1935	72
Iceland	1934	52	Prince Edward		
England & Wales,	1934	59	Island,	1935	72
United States			New Brunswick	1935	83
(reg.area)	1934	60	Quebec	1935	92
Union of So.Africa					
(Whites)	1934	61			
British Isles	1934	62			
Irish Free State	1934	63			
Denmark	1934	64			
Germany	1934	66			
France	1934	69			
Northern Ireland	1934	70			
CANADA	1935	71			

(a) Canada Year Book, 1937, p.185.

Nursing care of the mother at the time of delivery is the great need in maternal and infant hygiene in Canada. Modern standards call for pre-natal and post-natal care too, but in Canada the first and basic step, the provision of adequate medical and nursing service for every mother at the time of delivery, has not been attended to. The Victorian Order of Nurses reaches about one-fifth of the population and the Red Cross provides facilities for outposts; but well over 50% of the population has no such nursing service.

The provincial public health nurses conduct educational work only, and the local services in this field, where they are in existence, are often inadequately staffed. This lack of coverage helps explain the high rate of infant mortality in the rural and semi-rural areas.

In Holland, long considered a model country as far as its programme of infant hygiene is concerned, a system of midwifery is used. After a three year course in which they are given a thorough training in midwifery, nurses operate in close

co-operation with qualified medical doctors. Alberta is the only Canadian province to take steps in this direction. It is developing travelling nursing services in which the nurses are trained for the function of midwife, among other things. This plan appears to work out well for sparsely populated areas.

A system of infant and child health stations is essential for the medical examination and hygienic supervision of infants and young children not under care of a private physician. Vaccination against smallpox and immunization against diphtheria are requisite aspects of a public health programme at this stage. The remarkable results achieved in Canadian cities that have undertaken toxoiding against diphtheria show the benefits to be achieved by such a programme. Thirteen cities with populations in excess of 50,000 that adopted general toxoiding had only 10% of total deaths from diphtheria (1936) although they contained over 25% of the total population; and some of these cities have had no deaths at all from diphtheria for as many as six consecutive years. It is not enough, however, to concentrate solely on school children in such a programme because experience shows that the occurrence of diphtheria in a community is not diminished, in spite of the immunization of school children, until at least 50% of children of pre-school age have also been immunized.

As far as school hygiene is concerned, there is on the whole good medical inspection in the primary schools in urban areas and health units, with the service usually much poorer in rural areas. In the secondary and higher levels of schooling, medical inspection is spotty. More extensive medical examinations in the schools is, however, not enough. With the growth of medical knowledge, a pressing need is for more intensive examinations. The early symptoms of many serious ailments can only be discovered by a thoroughgoing examination such as is not ordinarily given in the schools at the present time.

To sum up, provisions for maternal, infant, pre-school and school hygiene are hit-and-miss throughout Canada. Under the provincial Health Acts the local authorities are not compelled to take action regarding the "Hygienes" as they are with respect to vital statistics and communicable diseases. Provincial efforts

have been restricted to stimulating the municipalities and educating them to do their job in these fields. Most local authorities, however, do not feel they have the money to extend these aspects of their health services, important as they are. In the last analysis, therefore, the matter becomes a financial one.

D. Food and Milk Control and Sanitation.

No province has a separate division in its Department of Public Health for food and milk control; most of them deal with it under "Sanitation".

Food.

Where there are full-time provincial and local health services, meat and other foods receive inspection of varying degrees; but local services, especially are very spotty. A substantial portion of the public receives little protection as far as the retailing of meat is concerned.

Milk.

The two essential requirements are:

1. methods of production on the farm that will ensure a clean milk and minimize the possibility of infection.
2. subsequent pasteurization scientifically applied to prevent any infection which does occur, despite the precaution in farm production, from reaching the consumer.

The meeting of either of these requirements alone is not sufficient, for although pasteurization is the one safeguard, it is not a panacea, and it cannot make of unclean milk an ideal food, nor will the most thoroughgoing inspection of the farm prevent the occasional infection of a raw milk supply with germs of one of the communicable diseases, or with germs from diseased udders. Neither of these requirements has been met in numerous communities in Canada. The result is the occurrence of some disease and illness that could be prevented. Ontario now has the most advanced legislation regarding milk. After October 1, 1938, for all cities and

1. The first part of the paper is devoted to a general

discussion of the problem and the methods used.

2. In the second part, we consider the case of a

single particle and show that the results are

in agreement with the experimental data.

3. The third part is devoted to a discussion of the

results obtained for a system of two particles.

4. In the fourth part, we consider the case of a

system of three particles.

5.

6. The fifth part is devoted to a discussion of the

results obtained for a system of four particles.

7. In the sixth part, we consider the case of a

system of five particles.

8. The seventh part is devoted to a discussion of the

results obtained for a system of six particles.

9. The eighth part is devoted to a discussion of the

results obtained for a system of seven particles.

10. The ninth part is devoted to a discussion of the

results obtained for a system of eight particles.

11. The tenth part is devoted to a discussion of the

results obtained for a system of nine particles.

12. The eleventh part is devoted to a discussion of the

results obtained for a system of ten particles.

13. The twelfth part is devoted to a discussion of the

results obtained for a system of eleven particles.

14. The thirteenth part is devoted to a discussion of the

results obtained for a system of twelve particles.

15. The fourteenth part is devoted to a discussion of the

results obtained for a system of thirteen particles.

16. The fifteenth part is devoted to a discussion of the

results obtained for a system of fourteen particles.

17. The sixteenth part is devoted to a discussion of the

results obtained for a system of fifteen particles.

towns in Ontario, and after December 31, 1938, for certain villages, the compulsory pasteurization of milk and milk products is required.

Sanitation.

Only five of the provinces have sanitary engineers and it is doubtful if all of these services are sufficiently staffed. Satisfactory services are provided by cities and other districts with full-time staff; elsewhere little or no attention is given to the matter. The Report of the Medical Health Officer of the Fredericton-York-Sunbury Health District in 1937 is applicable to many communities outside of New Brunswick: "If the present system of part-time, untrained sanitary inspectors is to be retained, I think it would be an excellent plan for the Department of Health to arrange a refresher course for these men, as most of them have very vague ideas of sanitation."

The broader aspects of sanitation such as town planning or "the planning of a stable, well balanced physical structure, so designed as to secure health, safety, amenity, order and convenience and generally to promote human welfare" have received relatively little attention. It is becoming more and more realized, however, that density of population, overcrowding of houses, space for recreation, the maintenance of ample space for light and air about buildings, and zoning to accommodate various town functions, have a direct effect upon the public health. These points are given further consideration in Part 5 on Housing.

E. Industrial Hygiene.

This is an aspect of public health that received no attention at all on this continent until recent years. With the passage of workmen's compensation acts, the heads of industrial concerns were brought face to face with the problem of industrial hygiene. Soon engineering and medical departments were organized in some of the larger plants to study the health problems of employees from the point of view of prevention rather than cure, and thus gradually the new science of industrial hygiene arose.

Still, the movement has not progressed very far, and to quote the Professor of Public Health of the Yale School of Medicine,

"Definite leadership is necessary to promote an appreciation of the values of industrial hygiene. The smaller firm cannot possibly secure service of the right sort without assistance, hence the only way in which industrial medicine can be brought to the small plant is through co-operation. The Safety Council is the logical body to lead in this field. Also, in every great industrial centre there should be a well equipped central industrial clinic, able not only to diagnose industrial diseases such as industrial poisoning, but to work out practical methods for their control. Such a clinic would also be in a position to offer the expert guidance needed in the development of sound programmes for industrial health services within the walls of the individual factory. Finally, it may be emphasized that the State Health Department should take cognizance of industrial hygiene and that municipal health departments have an excellent opportunity to utilize the industrial approach in carrying out preventive or educational measures." (13)

In Canada, only Ontario and Quebec have separate divisions for industrial hygiene, and the service is not highly developed. In the other provinces some phases receive attention from the Sanitation Division, possibly all that the industrialization of some of the provinces warrants. If this is so, a greater burden falls on the Dominion division as a consultant for those provinces that do not feel justified in establishing a full-time service themselves. With its recent establishment of a Division of Industrial Hygiene the Dominion is now in a good position to provide such assistance and leadership.

An industrial hygiene programme has some relation to wider problems of labour in their relation to the state not only in decreasing industrial unrest but in lengthening the working life of the worker and lessening his chances of becoming a public charge through being unemployable. It is especially valuable at a time when high-speed production and complicated chemical and mechanical processes are characteristic of industry. The setting up of standards for lighting, noise, fatigue, ventilation, posture, speed, special industrial hazards, etc., are most important.

(13) Ira V. Hiscock, Community Health Organization, p. 192.

Good working environment, however, is only part of the picture, and more and more attention is being paid to the individual health of the workers. From this point of view, the announcement of the Quebec Minister of Health on August 22, 1938, that a survey of industrial sickness throughout the province would soon be undertaken by the Bureau of Industrial Hygiene, is of prime significance. Except where the industry itself offers medical services, however, regular physical examination does not meet the problem of the inability of many workers to buy medical services. Full protection here can only be given by a state system of health insurance.

F. Mental Hygiene.

The importance and ramifications of mental hygiene have only recently been realized. Public health doctors are agreed that "There is no problem of public health which is more important and, at the same time more difficult of solution than that which relates to mental hygiene. In the average family throughout a community it is probable that the handicap due to mental maladjustment is as great as the handicap due to all other diseases and defects combined".⁽¹⁴⁾ The dimensions of the problem are enormous. In the first place there is the problem of major psychoses (insanity). As Table 11 shows, there are over 30,000 such cases institutionalized, occupying more beds than exist in all general hospitals. It has been estimated that 4% of all school children will at some period become patients (i.e. almost as many will graduate from universities). Dementia praecox is responsible for more chronic invalidism than tuberculosis or cancer. The institutional costs here are over \$10,000,000 a year, not including the need for new buildings. Secondly, there are the mental defectives (feeble minded) comprising at least 1% of the population. It is estimated that special training in public school is needed for 40,000 mentally deficient children. There is existing provision for the specialized training of only 6,715 mentally deficient children in public schools and 3,264 in residential schools. There

(14) Ira V. Hiscock, Professor of Public Health, Yale School of Medicine, op. cit. p. 182.

Table 11.

Number of Insane Patients and Total
Number of Patients in Residence in
Mental Institutions and Proportion
Per 100,000 of Population, Dec. 31, 1935 (a)

<u>Province</u>	<u>Insane Patients in Residence</u>	<u>Proportion per 100,000 Population</u>	<u>Total Resident Patients</u>	<u>Proportion per 100,000 Population</u>
Canada	30,208	275	38,261	348
Prince Edward Island	250	276	256	282
Nova Scotia	1,673	314	1,997	375
New Brunswick	767	177	961	222
Quebec	8,652	261	11,001	357
Ontario	10,368	282	13,096	356
Manitoba	2,094	295	2,578	363
Saskatchewan	2,392	257	2,943	316
Alberta	1,919	250	2,265	295
British Columbia	2,693	362	3,164	425

(a) Report on Mental Institutions, 1935, by the Dominion Bureau of Statistics.

are at least 8,000 adult mental defectives in the Dominion requiring institutional care, but provision has been made for only 4,000. This lack of accommodation exacts a heavy price in crime and other social problems. Thirdly, there are the epileptics, a class that requires different treatment than the insane. This is the group in which brilliant people and "geniuses" are often found. There is insufficient institutional accommodation for epileptics also. In some cases they are thrown in with the insane, a procedure that destroys all possibility of successful treatment. Fourthly, there are psycho-neuroses including nervous breakdowns, neurasthenia, and severe emotional unbalance, a group of complaints affecting perhaps 10% of the population. Although this aspect of mental hygiene is often passed over because the conditions are not acute, a comprehensive mental hygiene programme would go far in preventing and alleviating these afflictions with a consequent addition to national income through the increased efficiency of thousands of individuals. Finally, there are emotional factors in connection with physical disabilities, especially of

(15)

the more chronic type. Where the mental state connected with the physical disability is overlooked as is customary, it simply means that the period of disability is greatly prolonged with resulting increased costs.

In Canada, no province has sufficient facilities, institutional or otherwise, to look after even major psychoses. Facilities for treatment in all divisions of mental hygiene are inadequate, in many cases glaringly so, and provisions for prevention are almost non-existent in most provinces. Ontario has taken the greatest strides towards working out a rounded and thoroughgoing programme.

Overcrowding in mental institutions in Canada is of such proportions as to constitute a national disgrace. The Dominion Bureau of Statistics' survey of normal bed capacity and the actual number of patients in mental institutions in 1935, summarized in Table 12, shows that overcrowding existed in every

Table 12.

Normal Bed Capacity and Number of Patients
in Mental Institutions, Province by Province
Dec. 31, 1935. (a)

	<u>CANADA</u>	<u>PEI.</u>	<u>NS.</u>	<u>NB.</u>	<u>Que.</u>	<u>Ont.</u>	<u>Man.</u>	<u>Sask.</u>	<u>Alta.</u>	<u>BC.</u>
Patients in Institutions	38,261	256	1,997	961	11,001	13,096	2,578	2,943	2,265	3,164
Institutions Reporting	56	1	16	1	9	15	4	2	4	4
Normal Capacity	35,987	275	2,120	900	10,383	12,177	2,492	2,550	2,035	2,455

(a) Report on Mental Institutions, 1935, Dominion Bureau of Statistics.

(15) Dr. B.T. McGhie, Deputy Minister of Health and Hospitals in the Province of Ontario, in a valuable paper on "The Place of Mental Hygiene in Public Health" (The Canadian Public Health Journal, April, 1938) illustrates how these less acute types of mental difficulty affect all divisions of public health, including maternal and child welfare, industrial hygiene, tuberculosis prevention and communicable disease. He concludes that "mental health problems are encountered in every branch of public health work. They cannot be regarded, therefore, as the sole concern of psychiatrists. Such problems must be recognized by the physician as an intrinsic part of his responsibility to the patient, no matter in what branch he may be specializing. It has been our experience that the readiness of the medical profession to do this is limited only by the extent to which they appreciate the significance of mental and emotional factors in the preservation of health. Thus, the place of mental hygiene in the field of public health depends ultimately on the extent to which mental hygiene is given due emphasis in the training of medical students."

province but Prince Edward Island and Nova Scotia. At the present time, however, the Medical Superintendent of the Nova Scotia Mental Hospital at Dartmouth estimates that "the male wards are approximately twenty-five per cent overcrowded." Quebec officials reported in June, 1938, "a general overcrowding of the mental hospitals of the Province of Quebec. About 2,000 beds more are required for our insane patients besides 1,000 beds for the feeble-minded." The survey of the Ontario Hospitals, February 1937, finds that "accommodation for approximately 3,000 more should be early provided on the basis of present overcrowding." In Alberta, the report of the Acting Medical Superintendent of the Provincial Mental Hospital at Ponoka, in 1937, was emphatic as to overcrowding:

"Overcrowding has increased and again dominates the picture. All services are taxed to their utmost, and the situation has become not only serious, but very grave. The health and safety of the patients and staff are at stake, and additional accommodation should, and must, be provided if admissions are to continue."

The submission of the Province of Saskatchewan emphasizes the acuteness of overcrowding in that Province.

"Our two mental hospitals are greatly overcrowded, which interferes very seriously in providing adequate treatment towards the rehabilitation of these patients. In fact the overcrowding is so acute that a new institution of one thousand beds could be filled to capacity with the present patient population." (16)

Similarly in Manitoba,

"The two hospitals, the Brandon hospital for mental diseases and the Selkirk hospital for mental diseases with a normal capacity of 1,250 and 650 respectively now house 1,450 and 850 persons.... Our present accommodation for mental defectives is adequate for 300 inmates. Into these quarters

(16) At p.280

"we have crowded 410 patients. We have on file 170 applications for admission to the institution and these are all urgent cases. There are at least 200 more known cases which require institutional care." (17)

A memorandum from the Provincial Secretary for British Columbia states, "According to the Mental Hospitals' Report for the year ended March 31, 1937, the average annual increase of patients in hospital has been 117 during the past ten years. As a consequence of this, together with the addition of relatively few beds during this period, the institutions are now greatly overcrowded. The rate of increase in patient population has been particularly rapid during the past year or two and it is believed that this is due in part at least to the fact that our preventive and curative facilities are inadequate."

Such overcrowding, aside from its human aspect is wasteful and costly because it is impossible to do proper therapy when mental patients are crowded together.

Table 13 classifies the mental institutions in Canada by provinces. Nova Scotia is the only province where county institutions exist. Public health authorities do not regard the county as a suitable unit for proper work in mental hygiene. The relative lack of training schools and psychiatric hospitals throughout Canada is apparent.

Table 14 gives the net and per capita expenditures by provincial governments on mental illness over a period of years. It can be seen that this form of illness is costing the taxpayer large sums of money. There are wide variations in the net per capita expenditures of the various provinces. The four western provinces, all of which have a serious condition of overcrowding, have the highest net per capita expenditures, exclusive of Prince Edward Island. The influence of the depression is apparent with most of the provinces and expenditures were curtailed despite the growing seriousness of the problem. Here again is the vicious circle of a problem being aggravated by the reductions in appropriations that the provinces feel forced to make.

(17) At pp.34 and 35. Prince Edward Island, p.29 and New Brunswick, p.43 also mention inadequate facilities in this field.

T A B L E 13 - CLASSIFICATION OF MENTAL INSTITUTIONS
IN CANADA BY PROVINCES, 1935 (a)

MENTAL HYGIENE - CLASSIFICATION OF INSTITUTIONS

<u>PROVINCE</u>	Total Institu'tns.	Provincial Institu'tn.				County & Municipal Institu'tns.			Dominion Hospitals	Private Institu'tns
		Hospitals	Training Schools	Psychiatric Hospitals		Hospitals	Lsylums	Homes		
Canada	56	29	5	2		2	5	7	2	4
Prince Edward Is'nd.	1	1	-	-		-	-	-	-	-
Nova Scotia	16	1	1	-		2	5	7	-	-
New Brunswick	1	1	-	-		-	-	-	-	-
Quebec	9	6	1	-		-	-	-	1	1
Ontario	15	10	1	1		-	-	-	1	2
Manitoba	4	2	1	1		-	-	-	-	45
Saskatchewan	2	2	-	-		-	-	-	-	-
Alberta	4	3	1	-		-	-	-	-	-
British Columbia	4	3	-	-		-	-	-	-	1

(a) Report on Mental Institutions, 1935, Dominion Bureau of Statistics.

TABLE 14

NET EXPENDITURES BY PROVINCIAL GOVERNMENTS
ON MENTAL ILLNESS OVER A PERIOD OF YEARS (a)

Thousands of Dollars

As at fiscal year ending nearest to 31st December

	1913	1926	1929	1931	1933	1935	1936
PRINCE EDWARD ISLAND							
Mental Institutions	44	96	107	118	74	107	103
Per Capita Expenditure	47¢	\$1.10	\$1.21	\$1.34	83¢	\$1.20	\$1.12
NOVA SCOTIA							
Mental Institutions		60	61	34	39	42	60
Psychiatrist			5	3	2	4	3
Training school				20	13	16	16
Total		60	66	57	54	62	79
Per Capita Expenditure		11¢	13¢	11¢	10¢	12¢	15¢
NEW BRUNSWICK							
Mental Institutions	66	93	95	72	26	46	48
Per Capita Expenditure	18¢	23¢	23¢	17¢	6¢	10¢	11¢
QUEBEC							
Mental Institutions	341	788	979	959	937	1,093	1,311
Per Capita Expenditure	16¢	30¢	35¢	33¢	31¢	35¢	42¢
ONTARIO							
Mental Institutions	990	2,175	2,929	3,332	3,058	2,841	2,978
Per Capita Expenditure	35¢	69¢	88¢	97¢	88¢	77¢	80¢

(a) Based upon the Public Accounts Inquiry of the Royal Commission on Dominion-Provincial Relations. These figures include maintenance.

TABLE 14 (Cont'd)

NET EXPENDITURES BY PROVINCIAL GOVERNMENTS
ON MENTAL ILLNESS OVER A PERIOD OF YEARS

Thousands of Dollars

As at fiscal year ending nearest to 31st December

	1913	1926	1929	1931	1933	1935	1936
M. NITOBIA							
Mental Institutions	146	669	648	584	624	614	620
Psychopathic Ward, Winnipeg General Hospital		59	77	57	45	47	52
Care of feeble minded children		13	17	14	8	6	6
Total	146	741	742	655	677	667	678
Per Capita Expenditure	29¢	\$1.15	\$1.09	93¢	95¢	94¢	95¢
SASKATCHEWAN							
Mental Institutions	191	513	746	702	700	765	941
Per Capita Expenditure	34¢	62¢	84¢	76¢	75¢	82¢	\$1.01
ALBERTA							
Mental Institutions	75	354	535	612	568	598	617
Mental Hygiene				30	20	14	9
Committal of mentally incompetent	3	10	11	9	2	2	3
Total	78	364	546	651	590	614	629
Per Capita Expenditure	18¢	60¢	80¢	90¢	79¢	80¢	81¢
BRITISH COLUMBIA (b)							
Mental Institutions	286	650	767	876	578	573	678
Mental Hygiene Commission		5					
Mental Institutions, Bldgs., & Furnishings	195						
Total	481	655	767	876	578	573	678
Per Capita Expenditure	\$1.11	\$1.08	\$1.16	\$1.26	81¢	77¢	90¢
TOTAL	2,337	5,485	6,977	7,422	6,694	6,768	7,445
PER CAPITA	31¢	58¢	70¢	72¢	63¢	62¢	68¢

(b) The sharp decrease in expenditures from 1933 on is attributable to the imposition of a charge on the municipalities of 50 cents per municipal patient day.

The first step in a campaign to prevent mental and nervous disorder is to ascertain the size and scope of the problem. This step still remains to be taken in Canada. The second step is to make a frank comparison of existing facilities for handling the problem with accepted standards. In making such a comparison two aspects should be kept in mind - treatment and prevention. On the side of treatment the minimum needs in Canada are:

- 1) more institutional accommodation for major psychoses, epilepsy and mental defectives.
- 2) more and better trained personnel. There are some two hundred psychiatrists in all Canada, which is not enough for the proper treatment of major psychoses alone.
- 3) earlier diagnosis. The mental hospitals get about 50% of their cases too late for remedial treatment. This is partly a reflection of the fact that medical education until recently paid little attention to this side of the doctor's training. Training in mental hygiene is also needed for nurses and social workers.
- 4) semi-sheltered employment. One of the tragedies of mental institutions is that many patients could leave if industrial work-shops and other types of semi-sheltered employment were available.
- 5) the provision of convalescent homes for cases of chronic disability including heart disease.(18) This provision would have two effects; first, it would take a substantial number of people out of the crowded general hospitals, where it is quite costly to take care of them, and thus effect a net saving; second, it would give them better treatment because the staff would presumably be adequately trained in principles of mental hygiene and thus be able to deal effectively with those cases where emotional elements were a significant factor.

On the side of prevention, the following needs are pressing:

- 1) a thoroughgoing educational programme. Ideally, such a programme should take into account the individual needs of people; therefore, it could probably be best conducted through item 2.
- 2) a system of clinics throughout the country for diagnosis and advice. Such a system should keep many people out of institutions and hospitals and by early diagnosis should cut down the length of institutionalization of others. Accordingly these clinics should pay for themselves from the outset.

(18) On the basis of American figures, there should be about 180,000 cases of chronic disability in Canada, exclusive of heart disease.

From these clinics there would also radiate an educational programme which would make known to people the principles of conserving mental health.

- 3) the integration of the mental hygiene programme with the educational and welfare programme. There are potentialities for prevention in having at least some personnel trained in the principles of mental hygiene in pre-natal clinics, nursery schools and the school system. These same potentialities exist in dealing with unemployables, relief recipients and all forms of public assistance, where mental rehabilitation is a common need. All the provinces and at any rate the larger cities need public health nurses, social workers and other welfare personnel who are trained in mental hygiene.
- 4) a programme of vocational guidance and training for mental defectives, along with the early diagnosis made possible by the clinics. Experience shows that the great majority of feeble-minded can be made partly self-supporting and steered away from the delinquency and misconduct to which they are prone. Special classes and other educational facilities for the feeble-minded in Canada should conservatively be doubled. In this respect, Ontario has made the greatest advances of the provinces, although even there, the needs are not met.
- 5) organized community care for certain kinds of mental defectives. In Great Britain upwards of 18,000 mental defectives are supervised under a plan to which the central government contributes 50% of the fund. (19) From a straight cost point of view it has been found cheaper to supervise these people than not to supervise them.
- 6) a controversial proposal, but one made in many quarters, is that of provision for sterilization with due safeguards. Two provinces, Alberta and British Columbia, have such provisions. The British Columbia act is so hedged about with restrictions that it has been of slight importance. The Alberta legislation seems to be operating satisfactorily and a good deal of use has been made of it. (19a)

Although the inauguration of a more comprehensive programme for treatment and prevention in the field of mental hygiene would involve greater immediate outlays, there is reason to believe that net savings might be effected in the long run. (20) Most of the provinces feel that they are not in a position to make such immediate outlays. The situation, therefore, gets worse and worse and the direct and indirect costs mount higher and higher. Here too then, the problem in the last analysis becomes a financial one.

(19) Many of those supervised have had records of delinquency. The supervision is provided by salaried and at least partially trained workers, and by voluntary assistants. Regular visits are made and attention given to education and occupational placement.

(19a) See Appendix I, pp. 113, 114.

(20) See Chapter 4 under "Mental Hygiene", p. 69.

G. Degenerative Disease

The term "degenerative disease" may be somewhat misleading. Everyone has to die of something and "degenerative disease", strictly speaking, is almost a synonym for "old age". However, the two most important degenerative diseases, heart disease and cancer, often attack middle-aged and younger people too, and are in many cases preventable.

1. Cancer

Cancer presents a different picture from most diseases because it shows a tendency to increase rather than decrease in importance as a cause of death. Many forms of cancer can be cured if discovered and treated in the early stages of the disease. A minimum cancer programme involves,

- (a) the development and utilization of cancer clinics for early diagnosis and treatment and the stimulation of annual physical examinations;
- (b) a comprehensive educational campaign for physicians, nurses, dentists and the general public. Such education is essential if early diagnosis is to be achieved.
- (c) a careful study of the incidence of this disease and the mortality caused by it, including data regarding cases treated in hospitals and the end results.

In Canada, all provinces have made a start toward supplying early diagnosis and treatment of cancer, but some are much in advance of others. In every province, however, there is much room for substantial development under each of the three headings mentioned above.

A further bar to early diagnosis for many people is expense. Even where arrangements have been made for free diagnosis or for municipal assumption of the cost of diagnosis, the expense of travelling to one of the few cancer clinics may present a serious obstacle. Outside of Ontario, with seven clinics, no province has more than one or two clinics. As the diagnosis of cancer necessitates expensive equipment and its treatment involves the use of radium, the provinces have felt reluctant to establish clinics. Under present conditions, therefore, preventive programmes are necessarily limited because of the expense of travelling to the relatively few clinics.

2. Heart Disease.

Heart disease is the leading cause of death in most communities. It is one of a closely related group of maladies in which the heart, arteries and kidneys are more or less affected by degenerative changes. In childhood the majority of such disorders are due to attacks of acute rheumatic fever. In early adult life, venereal diseases begin to play a leading role; while in later years true degenerative changes due to the aging of the living machine become predominant. The great needs here, as in the case of tuberculosis and cancer, are provision for early diagnosis, for medical and hygienic treatment and for after care.

One of the most important fields for the control of heart disease lies in the detection and treatment of cases among children of school age, since these are the cases which most frequently and most readily yield favourable results. They should be detected by the regular routine of school medical examination but the difficulty is that this examination is rarely thorough enough to yield proper results. Among adults, the periodic health examination is a valuable means of detecting heart disease; consequently with the spread of industrial hygiene and other means of effecting regular medical examination, greater control of heart disease should be obtained. The centre of a programme for the control of heart disease is the cardiac clinic and in this respect Canada is not very well provided.

The problem of post-hospital or after-care is of paramount importance in heart disease, a fact which presents great difficulties for the lower income groups. With a large proportion of cases, nursing follow-up in the home is essential. Occupational therapy can be used with definite advantage to many patients. For those who require more or less prolonged institutional treatment, convalescent homes are needed. In these various respects, only a beginning has been made in Canada towards dealing adequately with heart disease.

H. Health Education.

Popular health instruction seeks to make health information public by techniques which arouse, stimulate and guide practices of healthful living. Modern public health developments have shown how to prevent a large portion of sickness and premature death. The problem is how to make this knowledge available to the average man in terms which he can understand and make a part of his own living. The means usually used are the press and radio, bulletins, health talks, printed matter of all sorts, exhibits, motion pictures and slides. The final test of health education, however, is not how much information is distributed but how greatly behaviour is influenced. A programme of health education, therefore, needs first class direction, careful analysis and organization, and effective co-ordination.

Popular health instruction is an important aspect of disease prevention and if stressed should effect considerable savings. None of the provinces ignores health education but some are backward and there is a tendency to treat it as a spare-time activity. Some provinces have set up special health education branches but usually the work is assigned to a regular division of the health department. The most effective education - that which is given when the health worker is dealing with the people - is limited to the areas where effective local services are in operation. The newly formed Dominion Division should be useful in supplying up-to-date information, including comparative statistics, to the provinces, and in stimulating better methods of health education. Voluntary agencies are very active in this field and do good work. Co-ordination is needed between the agencies, the Dominion Division, and the provinces to prevent over-lapping and to make the best use of funds.

I. Laboratory Service

Laboratory service provides the field and the research workers with the services of the bacteriologist, serologist, chemist, pathologist and others.

Except for six Food and Drugs Laboratories and a Laboratory of Hygiene, the Dominion provides no laboratory service and there is no need for it to do so because all the provinces have a full service at one or more centres. Some, however, are much better equipped than others. Table 15 gives the gross and per capita expenditures of the provinces on laboratory service, 1936-37:

Table 15

Gross and Per Capita Expenditures of the Provinces on Laboratory Service, 1936-37 (a)

	<u>Expenditures</u>	<u>Per Capita</u>
British Columbia	\$ 32,896	4.4¢
Alberta	36,200	4.7
Saskatchewan	19,400	2.1
Manitoba	16,200	2.3
Ontario	135,000	3.7
Quebec	65,000	2.1
New Brunswick	32,400	7.5
Nova Scotia	4,000	0.8
Prince Edward Island	223	0.2

(a) Based on the Public Accounts Inquiry of the Royal Commission on Dominion-Provincial Relations and answers by the provinces to a questionnaire.

J. Public Health Nursing

"Public Health Nursing is an organized community service rendered by graduate nurses to the individual, family and community. This service includes the interpretation of medical, sanitary and social procedures for the correction of defects, prevention of disease, and the promotion of health, and may include skilled care of the sick in their homes."⁽²¹⁾

The public health programme of today is becoming increasingly an educational one. "In teaching the individual

(21) National Organization for Public Health Nursing, "Manual of Public Health Nursing", New York, 1932, p. 3.

the principles of healthful living, and in bringing the individual into timely contact with the medical resources of the community the public health nurse has proved herself the most useful agent at our disposal; and the programme of modern public health work in a given community may be measured by the extent to which public health nursing service has been developed." (22)

In all the provinces except Alberta, the service is purely an educational one. The need in Canada of a nursing service that will include care in the home has already been mentioned in connection with infant and maternal hygiene. The fulfilling of this need should strengthen rather than weaken the educational programme. A public health nursing service which combines the care of the sick on a visiting basis with the teaching of hygiene is far more effective as an educational source than a service devoted to education alone, through the increased influence acquired by the nurse who actually renders service in time of suffering. The provision of nursing services in the home also effects certain economies, notably in cutting down hospitalization costs. (23)

(22) Ira V. Hiscock, Community Health Organization, p.138.

(23) "Such nursing service in the home releases many hospital beds and those of you who are aware of the present crowded condition of our city hospitals will recognize the importance of this to the community...It is conceivable that many municipalities might eventually be driven to organize bedside nursing services on an extensive scale to conserve costly hospital accommodation. So that, aside altogether from humane considerations, the Order (V.O.N.) occupies an important place in the economic welfare of our community." (Address by Dr. G.M. Little, Medical Officer of Health Edmonton, 1938).

"It is also to be noted in the statement which you have before you that 11,117 visits were made last year which if paid for by some other organization at the per visit cost figured by the Metropolitan Life Insurance Company, who pay fees for their patients carrying insurance with them at 75¢ per visit, this would amount to a charge of \$8,337.75. Adding this to the saving made on the confinement cases cared for in the home you will have a saving of \$13,065.25. Providing this organization (V.O.N.) were not functioning in the Municipality many cases such as acute rheumatic fevers, arthritic, cardiac cases, tuberculosis cases and cancer cases would have to be treated in hospital for probably periods extending from a few weeks to months and years at a cost of \$1.75 per day, to be borne equally by the Municipality and the County of York." (extract from a report of the Medical Officer of Health in East York, Ontario 1934).

"According to modern conception, the ideal plan includes under one organization both the educational work performed by most Health Department nurses in the past and the care of the sick in the home as now performed by so-called district or visiting nurses, usually under private auspices."⁽²⁴⁾ Experience generally shows that any of three types of organizations may be used with good practical results:

- a) the organization in the Department of Health (municipal or provincial) of a combined generalized Public Health Nursing Service, including all branches of health inspection, and a morbidity service;
- b) the development of a generalized service in which official and voluntary agencies co-operate;
- c) the delegation of all nursing service to a voluntary agency with a subsidy from one or more of the Dominion, province or municipality, and representation from the Health Department in its administration.

In Canada none of these types of organization is the rule. Alberta has moved towards the first plan and New Brunswick towards the third. Outside of Alberta, the public health nurses do only educational work. The Victorian Order of Nurses gives certain types of nursing service besides doing educational work⁽²⁵⁾ and the Red Cross provides nursing service in some outposts. However, the services of the last two organizations are not available for more than a third of the population. In Ontario facilities would be almost adequate if the second type of organization mentioned above were pushed more vigorously by the Provincial government, because both the Victorian Order of Nurses and the Red Cross operate extensively in that Province.⁽²⁶⁾ It is quite clear, however, that the health needs of the population as a whole are not at present being met by the existing organizations in this field. The facilities in most municipalities

(24) Community Health Organization, p.143

(25) There is a smaller organization, The St.Elizabeth Visiting Nurses Association operating in Ontario and providing nursing service for Roman Catholics.

(26) About half of the activities of the Victorian Order of Nurses is centred in Ontario.

are poor. This is partly because the development of public health nursing is comparatively recent but more because local governments feel that they must economize wherever possible, even on services whose preventive aspects are most important.

If voluntary agencies are to provide the much needed nursing services in the home, they should get larger grants from governments to enable them to extend their services both in area and in content. If not, there is much room for expansion in both provincial and municipal services. Here again, the financial factor is perhaps the dominating one.

Chapter 4 - Gaps and overlapping in the Organization of Public Health

In the field of public health, gaps are much more prominent than overlapping, partly because of the relative newness of public health, partly because legislatures have paid little attention to the efficient organization of health services. It has been assumed, for instance, that the municipalities, which are the basic administrative units, could adequately carry out health functions despite their striking differences in size, population and wealth. Inevitably, important deficiencies and gaps resulted.

The local health services are the weakest link in the Canadian organization of public health. The existing political units of local government are often entirely inadequate as units for health administration. Many are too small to support full-time services for the public health. Staffs, when engaged, consist of part-time health officers who are no doubt competent physicians but untrained in public health. Moreover because of their private interest they are hampered in the enforcement of the law. Part-time sanitary inspectors are usually men without any scientific training whatever. This sort of service cannot begin to apply the achievements of science to the protection of the health of the people. Furthermore substantial areas of the country have little health service of any kind. These areas are too poor to attract the private physician or to set up municipal services.

The commonly accepted solution among public health authorities is a grouping of municipalities into health units that can supply an adequate full-time service for the protection of the public health. The fact is that health services have grown in a haphazard fashion as an off-shoot of existing political organization and with little attention to the health situation

as such. Health units would be specifically designed to promote general health and would retain the local character best suited for the administration of a large part of public health work. Such units are a necessary complement to the work of the private physician and the municipal doctor, both of whom are primarily interested in people who are already ill. A nationwide system of health units properly staffed, would be able to provide a first class service under each of the headings analyzed in this memorandum. It could organize the health resources of the country for a thoroughgoing programme of prevention and control. Quebec has taken the greatest step towards setting up a system of public health units which now covers almost half of the rural population. Some provinces have their hands tied by financial considerations. This is particularly unfortunate because of the long-run savings that such a programme would effect and the undoubted stimulus it would give to the well-being and efficiency of the population as a whole.

(27) The municipal doctor also has public health functions but it is obvious that he can hardly have the time or training to do both medical and public health work adequately for a community. He should be spending his time studying the treatment of disease while the medical officer of health spends his time studying public health. The municipal doctor would be greatly strengthened by being part of a larger area with a full-time public health organization.

(28) The personnel of a health unit would vary with its size and the population it embraces, but the following staff is generally considered a minimum one:

Medical Officer of Health
Public Health Nurses
Sanitary Inspector
Clerk (Office)

In both town and country, more could be done by the provincial health organizations in providing leadership and re-organizing health services which the province can more cheaply and efficiently administer, as for example, British Columbia and Ontario have recently found with regard to the control of tuberculosis. A good deal of co-ordinating remains to be done on basic matters. For instance, it is doubtful if any province can tell the amount of money spent by its municipalities on public health. Great scope for co-ordination lies in the fact that the health services are closely related to the other social services, especially education, public assistance and mental hygiene (if it is regarded separately). The public health doctor and nurse should work with the school authorities, teaching social and personal hygiene. The recipients of public assistance of various kinds are on the whole indigent and provide an obvious field for the health services, while work in mental hygiene offers great scope for progress in public health generally.

The survey of provincial health services made above reveals a considerable number of gaps. Some of the provinces may face the same initial difficulty as many municipalities; they are not populous enough to afford a complete health service. There is still scope in some provinces for bringing all the provincial health services under one head. British Columbia has made notable strides in this direction, although public health there is still under the Provincial Secretary. The practice of combining health with another portfolio often works out to the detriment of both, although it may sometimes be necessitated by the smallness of the province.

The quality of administration in the field of public health is of immense importance. Well trained staff with training specifically in public health, is essential. Haphazard appointments, not necessarily dictated by partisan politics, are expensive.

It is possible that substantial savings could be effected by administrative reorganization, weeding out of staff, improving qualifications of staff, checking carefully on administrative procedure, installing modern recording and reporting systems, etc. There is a scarcity of qualified personnel, trained for public health, in Canada. Some of the provinces have been very progressive in sending medical officers of health to medical schools for training in public health, and the City of Montreal has also been outstanding in this respect. The need is one that is felt by municipalities generally and it extends to nursing as well as to medical personnel. As long as this situation exists, there will be inefficiency in the public health services with costly results in the long run.

Health research is receiving only incidental attention from the provinces and some of them have neither the money nor the facilities it requires. Medical research is carried on mainly at the universities, but there is need for a comprehensive and co-ordinated programme of research on problems particularly related to public health. The medical side of such a programme could be done most efficiently and least expensively in the universities, but it would require financial assistance. There is a pressing need for field studies on public health and the logical centre for these would be the Dominion department. The United States Public Health Service has had a great influence as a result of its field studies.

The functions of the Dominion Health Service are, in the main, three. First, to take care of health functions specifically assigned to the Dominion Parliament; second, to co-ordinate health policy throughout the country as much as possible, to promote uniform standards of health practice and to give leadership through research, education and publicity;

third, to deal with interprovincial health problems beyond the control of individual provinces.

There is little doubt that a Dominion Department of Health is the one best suited for carrying out the last two objectives. It may be argued that as the provinces are responsible for public health they should perform these functions themselves through the formation of an interprovincial organization. But this is a cumbersome procedure, and experience in other fields shows that generally speaking it has not worked out satisfactorily.

There are some interprovincial health problems that have not been worked out, presumably because the provinces have no organization for that purpose and because the Dominion Department does not wish to appear to intrude in provincial matters. An important example is that no means exist of settling accounts between provinces for hospitalization of residents of one province by another. Such hospitalization is often costly; and British Columbia, especially, has complained that it is forced to shoulder the liabilities of other provinces because of the drift of people who are ill to the mild climate of the Pacific coast. The importance of this matter is recognized in the statement submitted to the Royal Commission on Dominion-Provincial Relations by the Department of Health of the Province of Ontario. "It would facilitate the treatment of such cases", it says, "if uniform rules could be drawn up and adopted by all the provinces. It is unlikely that such rules could conveniently pass into legislation. The Dominion Department of Health might reasonably be expected to draw up a set of rules and submit them to the various provinces for adoption or revision".

This problem of interprovincial hospitalization is linked with a difficulty in Canada's dual type of organization.

It is easy to talk about the necessity of "leadership" and co-ordination, but when chief jurisdiction for public health lies with the provinces the Dominion service⁽²⁹⁾ is likely to become extremely cautious lest it be accused of infringing upon provincial rights. This is not the sort of situation that breeds leadership and a progressive policy.

Experience elsewhere indicates that apart from constitutional amendment there are two ways in which such a situation can be remedied and the necessary leadership and co-ordination given. First, the personnel of the Dominion service must be so outstanding as to be the acknowledged leaders of the country in their respective fields. If, in addition, the Dominion Department has a fund for significant field studies as already suggested, it will automatically assume a position of leadership in Canada, just as the United States Public Health Service has in that country. The other way is by conditional grants-in-aid, a policy which has been found necessary by the central government in both Great Britain and the United States. The policy of grants for venereal disease, inaugurated in 1920, affords a precedent here. There is no doubt that the Dominion Government could exert a great influence on the quality and extent of Public Health Services and bring about more uniform standards by a policy of conditional grants-in-aid. This question is a part of the larger one of how far the Dominion Government wishes to become implicated in any policy of grants-in-aid; but there is a difference between public health and some other fields. The Dominion Government could

(29) This tendency is observable not only in public health but in other fields, like labour, where a similar jurisdictional situation exists.

exercise an important influence by relatively small conditional grants for health. Even if grants-in-aid were in general thought undesirable, they might be used in this field because they would not be likely to reach such proportions as financially to embarrass the Dominion government and they would achieve significant results.

The Dominion Council of Health has been a useful body in helping to effect a co-ordinated health programme for the whole country and it appears a type of organization that could profitably be imitated in other Dominion departments, like Labour, with a similar division of jurisdiction. It would be strengthened by the inclusion of representatives of the medical schools as such, and one representative at least of public health nursing. Representatives of the medical schools should be able to aid the deliberations of the council because of their close touch with current research and thought in the field of public health. Further, as they are training the future personnel of the field, all concerned would benefit from the regular contact and discussion of problems. The council has acted as a valuable clearing house for information and discussion, and has done a good deal, under the circumstances, in working out a co-ordinated public health policy for the whole country.

Among the functions assigned specifically to the Dominion Parliament by the British North America Act are Indian affairs. Statistics on the health of the Indians show a very serious state of affairs. Conditions here could be improved in two ways. First, a generalized health service covering both curative and preventive work should be set up, especially designed for the Indians. This would be more effective than turning the health of the Indians over to the provinces because in many respects health problems on the Indian reserves are different from the health problems of the rest of the population.

For instance, a public health nurse without special training in dealing with the Indians might be baffled by the problems she would encounter among them. Second, arrangements should be made with the provinces to take over responsibility for some of the more specialized services such as tuberculosis control which they are well equipped to carry out, and which the Dominion could provide adequately only at great expense. Such an arrangement is now in effect in British Columbia, to the general satisfaction of both Dominion and provincial authorities. Other specialized services should be scrutinized to see if similar arrangements could be made.

Overlapping

There is very little overlapping in the Canadian organization for public health. In the municipal field, it would probably be desirable to have all jurisdiction for food inspection vested in the health authorities. In school hygiene the school medical services and the general public health services are often operated separately because they are authorized by different statutes (the School Act and the Health Act respectively). A more effective and economical service might result if school boards utilized the services of the local boards of health to a greater extent.

As to the Dominion-provincial field, the submission of the Department of Health of the Province of Ontario to the Royal Commission on Dominion-Provincial Relations points out some ways in which the present division of control between the two jurisdictions does not work out satisfactorily. They are as follows:

1. The control of poisons: "Neither Dominion nor Ontario legislation," the statement says, "contains any well-defined, up-to-date list of poisons with practical but adequate measures to protect purchasers". It recommends a Dominion Poisons Act which would contain an exhaustive list of poisons and set out the conditions under which such poisons may be made and sold anywhere in the Dominion. The provincial legislation "should merely designate and license persons authorized to sell poisons e.g. pharmacists, and certain other classes of merchants, who should have a limited licence to sell certain poisons."
2. Control of narcotic drugs: There are certain recently recognized habit-forming drugs such as codeine which are under provincial control and not under the Dominion Opium and Narcotic Drugs Act. But "Provincial legislation for the control of these drugs can be only partially effective because the province cannot control importation of the drugs from other provinces". It is recommended that the Dominion assume control of the drugs at present set out in Schedule D of the Ontario Pharmacy Act, particularly codeine and derivatives of barbituric acid.
3. Maintenance of insane convicts: Under sections 53 to 56 of the Penitentiary Act, R.S.C., 1927, c. 154, the Dominion assumes financial responsibility for a convict who becomes insane after three months from the date of admission to a penitentiary; but convicts insane at the

time of admission and detected within three months, are returned to the province. The practice is for all such persons to be cared for in provincial mental hospitals. Where the Dominion accepts responsibility, the Dominion pays the province the cost of maintenance. The Ontario Department of Health maintains that this is an unsatisfactory arrangement because "The insane convict is a difficult person to care for, and it is difficult for an ordinary mental hospital to house convicts with the non-criminal mental patients." It suggests "that the Dominion should establish an institution for the custody and treatment of all insane convicts, and that the Dominion should house therein all convicts who become insane, without regard to the time of onset of the mental disorder."

Finally, there is need for clarification regarding responsibility for certain specific problems of public health which affect certain areas and not others, such, for example, as Rocky Mountain spotted fever in British Columbia and the Alberta foothills and trachoma in Manitoba. There is some argument for the Dominion assuming responsibility here. The provincial health services are not equipped to deal with these unusual diseases and the tendency is to ignore them until they have taken a strong hold. An alert Dominion field service with specialized staff could spot them before they had become established and prevent them from spreading. Again, some of these diseases spread to Canada from the United States or from other countries. As it is a responsibility of the Dominion health service to prevent communicable diseases from entering the country, the Dominion might reasonably assume the burden of controlling such diseases once they had entered. In the United States, similar diseases have from small beginnings, made widespread progress throughout the country, causing great physical and economic loss, because local services were not equipped to recognize and handle them at the outset. Experience there has shown that the national health service can most efficiently and economically handle this type of health problem.

Chapter 5 - The cost of sickness in Canada and possible
savings to be effected.

It is impossible with present statistics to arrive at an estimate of savings that would be effected by a complete programme of public health. Indeed as conditions change, the validity of such an estimate would be open to grave question. All that will be attempted in this section is to give examples of the kind of savings rather than the amount that such a programme might be expected to effect in specific directions.

1. Communicable diseases

Records show that remarkable reductions have been made in certain communicable diseases, such as diphtheria and typhoid, to which special attention was paid. Table 16 shows the actual number of deaths from diphtheria in the fourteen largest Canadian cities in 1927 and 1936.

Table 16 - Number of Deaths from Diphtheria in 1927 and 1936 in the Fourteen Largest Canadian Cities (a)

<u>City</u>	<u>1927</u>	<u>1936</u>
Montreal	219	18
Toronto	95	2
Vancouver	8	3
Winnipeg	25	3
Hamilton	1	0
Quebec	21	25
Ottawa	26	0
Calgary	23	0
Edmonton	2	1
London	10	1
Windsor	11	0
Verdun	8	1
Halifax	7	4
Regina	2	1

(a) Health, December, 1937.

Quebec is the only city showing an increase of deaths in that period, and it was the only one not to adopt general toxoiding; all other cities show a marked decrease.

The sharp drop in deaths from these communicable diseases is one of the chief reasons for the decrease in the general

mortality rate that has characterized modern times. Dr. C.E.A. Winslow of Yale University conducted an investigation to ascertain to what extent the application of public health procedures was responsible for the decline in the death rate. His investigation covered ten states and the District of Columbia. He found that more than half of the decrease in the mortality rate from 1900 to 1932 was the result of a great reduction of deaths from four diseases alone: typhoid fever, diphtheria, diarrhoea and enteritis, and tuberculosis. The death rate from the first three of these diseases decreased over 90%, that from tuberculosis about 70%. From all other diseases taken together, the rate of mortality declined by less than 22%. It can scarcely be an accident, concludes Dr. Winslow, that the four diseases which so strikingly diminished were those that had been made the objective of organized attacks by the health forces of the country.

2. Tuberculosis control (30)

In 1900 before the anti-tuberculosis campaign was started in Ontario, the death rate from tuberculosis was 160 per 100,000; in 1936 it had been reduced to 36 per 100,000. Although many factors contributed to this reduction, the chief reasons were two, first the discovery of persons with tuberculosis, second their segregation and treatment. The actual cost of sanatorium treatment and associated services for 1936 was \$2,590,000. Experience shows that not more than 50% of those requiring treatment in sanatoria are hospitalized. On this basis, the cost of treatment at the old rate of tuberculosis would have been upwards of \$11,000,000.

To treat a patient with tuberculosis in its early stages in a sanatorium and return him to his home costs less than \$1,000. To treat a patient with moderately advanced tuberculosis costs anywhere from \$2,000 upwards depending upon the time.

(30) This section is based on data supplied by Dr. Phair, Chief Medical Officer of Health of Ontario.

necessary to arrest the case and make the patient non-infective. In 1936, 122 of the newly discovered cases were in the minimal stage and 60 in a moderate stage of development only. The savings resulting from the early discovery of these at \$1,000 per case would amount to \$182,000. Furthermore the cost of providing mothers' allowances for families where the bread-winner was invalided with tuberculosis amounted to \$495,635 for 1936. The figure for the costs to the province and municipalities for the care of tuberculosis patients in general hospitals cannot be ascertained. Similarly the cost of maintaining persons treated in their own homes cannot be estimated. In addition problems arising out of deaths and invalidism and the disruption of families will eventually cause calls on public funds through relief, delinquency, etc.

It can be seen, therefore, that important savings have been effected by the campaign against tuberculosis to date. But, as the survey in Chapter 3 shows, tuberculosis is still a serious and costly problem in Canada and the financial factor is the chief one preventing further marked reductions in its incidence, especially in the Maritimes and among the Indians. An intensification of efforts to control this disease should show substantial direct and indirect economies for public treasuries of the type indicated above.

3. Venereal disease

It is impossible to make a reliable computation of saving that might be effected by a thoroughgoing programme of venereal disease control. This is in part due to the fact that statistics do not give a true picture of the number of individuals prematurely dying as the result of syphilis because deaths from that cause are often masked to avoid stigma on the families. However, it is well known that syphilis may cause total incapacitation and early death and is an important cause of insanity, locomotor ataxia, heart disease, bone syphilis, blindness,

etc. In various ways, therefore, the cost of this disease to the public treasury is considerable. The statistics of institutions conducting routine Wasserman tests show that the programme of venereal control inaugurated in 1919 has had good results. For instance, figures for the Fort Saskatchewan Gaol in Alberta indicate that whereas 16% of all admissions in 1920 were syphilitic, there has been a gradual reduction until now less than 6% of the admissions have syphilis. Similarly, reactions to the routine Wasserman tests in the Toronto General Hospital, fell from around 10% in 1916 to 1.7% in 1935 in a fairly consistent curve. But the fact remains that venereal disease is still one of our major problems of public health, and syphilis, the most dangerous venereal disease in its end results, could be reduced to a minimum if a properly organized campaign were conducted against it. Public health authorities are unanimous that a complete programme for the control of venereal disease should at least save as much as it costs.

4. Mental hygiene

Dr. C.M. Hincks, General Director of the Canadian National Committee for Mental Hygiene, has made some estimates "relating to mental disabilities in the Dominion and what might be expected through the strengthening and enlargement of such mental hygiene arrangements as mental health programmes in schools and colleges; hospitals, clinics and other diagnostic and therapeutic agencies; supervision of maladjusted individuals in the community; educational facilities for mental defectives; and public education in reference to mental health conservation". His figures are as follows: the annual cost of hospitalization for major psychoses exceeds \$14,000,000 at the present time. (Of this amount \$10,383,375 is required for maintenance charges at 84 cents per diem, and \$3,750,000 for new construction to provide accommodation for a net annual increase of 1,500 patients). It is conservatively estimated that insanity could be reduced by at least 40% if preventive and early treatment measures were put into active

operation. There should ultimately be a substantial saving therefore (about \$5,600,000 per annum on the present figures) in hospital costs alone. In addition there would be an increase in the national income through the productivity of the 40% now in mental hospitals who would be able to return to remunerative occupations. Dr. Hincks sets this figure at \$10,213,800 at the present time.⁽³¹⁾ A further item would be savings effected through cutting down the rate of crime. About one-third of total crimes are committed by persons suffering from insanity, mental deficiency or psychopathic states. A comprehensive programme of mental hygiene reducing mental disability by 40% would therefore save \$1,700,000 per annum of the \$12,750,000⁽³²⁾ crime bill of Canada. Again, at least 10% of the population is afflicted with minor forms of nervous instability and mental maladjustments that seriously curtail efficiency and happiness. A comprehensive mental hygiene programme would go far in preventing and alleviating these afflictions with a consequent addition to national income through the increased productivity of thousands of individuals. Other savings have already been indicated in the section on mental hygiene. These figures are admittedly somewhat arbitrary, but they serve as examples of the kind of savings that a programme of mental hygiene would effect, entirely apart from welfare.

Field experiments

Two large experiments sponsored and largely financed by the Milbank Memorial Fund were designed to test the effectiveness of increased expenditures on public health. The first experiment was begun in Syracuse, N.Y. in 1923, as a demonstration of the value of adequate public health facilities and was

(31) The earning capacity of the average Canadian man is placed at \$927 per year and that of the average Canadian woman at \$559 per year. These are the average figures calculated by the Dominion Bureau of Statistics for wage-earners.

(32) This sum includes the maintenance of penitentiaries, jails, reform institutions, the administration of justice (criminal), policing for the guarding of property and the detection of delinquents, etc.

continued for eight years. Appropriations for the work were increased from \$1.00 per capita to \$2.08. When the accomplishments from 1923 to 1931 were compared with those from 1912 to 1921, it was found that there had been a two-fold acceleration in the rate of decline in the death rate from diphtheria, measles, scarlet fever, typhoid fever, whooping cough, tuberculosis and infant diarrhoea, amounting to a saving of three hundred lives a year in this city of 150,000 population.

The second demonstration, for which Cattaraugus County, N.Y. was selected, was made in an attempt to discover whether death rates of the rural areas are as low as can be reasonably expected. Expenditures on public health in this rural county were raised from 50 cents per capita to slightly more than \$2.00. Although the death rate from diphtheria, tuberculosis and infant mortality had been very low before the beginning of the demonstration, all three rates fell sharply. The savings in lives, as compared with the period from 1915 to 1921 was 39 a year in a population of 1,236.⁽³³⁾

Cost of medical care

The Dominion Bureau of Statistics has made calculations (which are necessarily approximations only) of the total cost of medical care in Canada for the year 1931. The total figure came to \$256,113,671 or \$24.69 per capita. Allowing for the difference in the price levels of the two years, this per capita figure is approximately the same (slightly higher) as that arrived at by the United States survey of the cost of medical care in 1929 (\$30.08). The Bureau estimated that the time lost in wages alone in 1931 through sickness was \$40,000,000. Many authorities believe that 50% of sickness is preventable. This does not mean that a thoroughgoing programme of public health would reduce the costs of medical care by 50%. The immediate results especially if health insurance

(33) Esther L. Brown, Physicians and Medical Care.

were introduced, would probably be to increase the costs of medical care because of the number of hidden defects disclosed and the availability of medical treatment. Over the long run, however, there should be a marked reduction especially in the indirect costs of sickness such as loss of wages, inefficiency and invalidity.

Conclusion

The great argument for a complete programme of public health, however, is not the saving it might make for the public treasury along specific lines, but the increase in health, welfare, and efficiency, it would bring to citizens generally. It is sixty-five years since Disraeli's famous declaration that "The first consideration of any government must be the health of the people", but it is doubtful if that statement can be accepted as true of Canadian governments. It is generally accepted among public health doctors that a complete programme of public health aimed at prevention (i.e. exclusive of institutional care) could be inaugurated at the cost of from \$2.00 to \$2.50 per capita; that is, a total cost for all governments ranging from \$22,000,000 to \$27,500,000. The amazing thing about such a programme is its cheapness relative to the prospective results. The expenditure by Canadian governments on prevention is difficult to arrive at exactly, because of the way the financial statistics of public health are kept. Dr. J. W. S. McCullough, then Chief Officer of Health for Ontario, estimated that the amount spent on preventive medicine from all sources was \$7,000,000 in 1928 or 71 cents per capita. His estimate was based on the following considerations:

1. appropriations for public health (not including hospitals and asylums) for each of the provinces.
2. appropriations for Dominion public health.
3. local expenditures for public health in Ontario from

reports of M.O.H.'s, with consideration of pertinent expenditures on education.

4. estimates on the basis of (3) of local public health
(34)
expenditures in the other provinces of Canada.

5. expenditures by voluntary agencies.

Table 17 shows provincial expenditures on the main preventive aspects of public health for 1936-37. The per capita provincial expenditure for Canada was 24 cents. The figures in this table are not given as all-inclusive or solely preventive because financial figures for public health as between the provinces are not on an entirely comparable basis and not in a sufficiently detailed form. They are given as approximations only. It is to be noted that important expenditures on prevention are made by local authorities, but as municipal financial statistics are in such a chaotic state, it was felt unwise even to attempt an estimate of these expenditures. The table does not, therefore, take into account the fact that the distribution of total expenditures as between the provincial and municipal branches of government differs from province to province. Consequently, the table does not warrant comparative deductions about the total amounts that are being spent on prevention in the various provinces. It can be said with assurance, however, that public health expenditures on prevention in Canada do not approach the figure of \$2.00 to \$2.50 per capita considered necessary by public health authorities for a full programme of prevention.

(34) As Ontario has relatively well developed local services this estimate probably errs substantially on the high side.

Table 17 - Expenditures by Provincial Governments on the Main Preventive Aspects of Public Health, Including Preventable Disease Control (excluding tuberculosis sanatoria), Vital Statistics; Sanitary Engineering, Health Laboratories, Travelling Clinics, Nursing Services, Health Units, Industrial Hygiene, Inspection Services and Grants to Health Associations, 1936-37.(a)

	<u>Total</u>	<u>Per Capita</u>
British Columbia	\$ 447,000	\$.60
Alberta	195,400	.25
Saskatchewan	211,600	.23
Manitoba	167,000	.23
Ontario	689,000	.19
Quebec	758,000	.24
New Brunswick	120,000	.27
Nova Scotia	84,000	.16
Prince Edward Island	<u>25,755</u>	<u>.28</u>
All provinces	2,697,755	.24

(a) Based on the Public Accounts Inquiry of the Royal Commission on Dominion-Provincial Relations.

Table 18 gives in summary form all the health expenditures of the provincial governments, expenditures on mental and tuberculosis institutions, and on hospitals. For all the provinces, 24 cents per capita is spent on prevention (broadly interpreted) compared with \$1.68 per capita on all health activities. An intensified programme of prevention should, over a period of time, materially reduce certain health expenditures, especially those on institutions for mental and tubercular patients, and to a lesser degree, those on general hospitals. It should be remembered too that without thorough-going prevention, there will continue to be a rising curve of capital expenditures on health institutions and hospitals.

Although it would be unwise to attempt to estimate the cost of a complete programme of public health in Canada or to dogmatise about the savings that would be made in specific directions, two conclusions may safely be made. First, the cost of such a programme would not be great as far as governmental expenditures go. Second, the direct and indirect results of such expenditures would be of fundamental importance to the country as a whole.

TABLE 18

SUMMARY TABLE OF HEALTH EXPENDITURES OF PROVINCIAL GOVERNMENTS (a)

As at fiscal year ending nearest to 31st December, 1936

(Thousands of Dollars)

Province	Hospitals		Mental & Tuberculosis		Other Health		All Health	
	Total	Per Capita	Total	Per Capita	Total	Per Capita	Total	Per Capita
	\$	\$	\$	\$	\$	\$	\$	\$
British Columbia	1,073	1.43	1,053	1.40	335	.45	2,461	3.28
Alberta	481	.62	867	1.12	371	.48	1,719	2.22
Saskatchewan	415	.44	1,223	1.32	232	.25	1,870	2.01
Manitoba	521	.73	827	1.16	223	.31	1,571	2.20
Ontario	1,301	.35	3,863	1.05	848	.23	6,012	1.63
Quebec (c)	1,359	.44	1,833	.59	698	.23	3,890	1.26
New Brunswick	20	.05	190	.44	119	.27	329	.76
Nova Scotia	165	.31	209	.39	84	.15	458	.85
Prince Edward Island	9	.10	121	1.31	24	.26	154	1.67
All Provinces	5,344	.49	10,186	.92	2,934	.27	18,464	1.68

(a) Based on the Public Accounts Inquiry of the Royal Commission on Dominion-Provincial Relations. Figures are net for institutions but it has not always been possible to get net figures for other health expenditures.

(b) Includes vital statistics, homes for incurables, health laboratories, preventable disease control (less tuberculosis), sanitary engineering, nursing services, health units, health inspection services, industrial hygiene, and grants to health associations.

(c) Note also the work of religious organizations in Quebec; see study by Professor Esdras Minville on Social Legislation in Quebec, on which these figures are based.

Chapter 6 - Conditional Grants in the Field of Public Health

The Dominion Parliament has given conditional grants-in-aid once in the field of public health, to stimulate a national campaign against venereal disease. From the fiscal year 1920, \$200,000 was appropriated annually and the grant was reduced to \$150,000 in 1925, \$125,000 in 1926, \$100,000 in 1927, and abolished in 1932. Population was the basis of the grant, and the province had to match the federal contribution. Before a grant was made, the province first had to present its plan of attack against venereal disease and if this plan was approved, half the subsidy for the year was given. The second half of the subsidy was given six months later if the Dominion Department of Health felt that the provincial programme was proceeding satisfactorily.

To administer and supervise the grants, a Division of Venereal Disease Control was set up in the Dominion Department of Health under a full time director. These subventions differed from other conditional grants in that their terms of administration were not rigidly defined in a statute but left to departmental discretion.

The grants were conspicuously successful in achieving their purpose. Fifty-two clinics had been established in the provinces by 1922, attention was paid to suitable provincial legislation for controlling the disease, better statistics were collected; in short, a nation-wide programme for the control of venereal disease was put in operation, a development which would not have been brought about by the provinces alone. (35)

The question arises, were these results fortuitous or is the field of public health one that is favourable to the operation of conditional grants-in-aid? This question may be

(35) See Chapter 3 for further details.

analyzed under two heads, first, the desirability of such grants; second, their workability.

There can be little doubt about the desirability of improving the standards of public health in Canada. Chapters 2 and 3 of this memorandum show a disturbing condition relative to several basic problems of public health. (36) It might be argued with some force that if the provinces were relieved of certain expensive functions or conversely given additional sources of revenue, they would then be able to deal adequately with public health. Desirable results for public health would undoubtedly follow from such an arrangement, but the experience of other countries would show that disparities in standards and gaps in services would still exist. Public health is a relatively new field and there is no tradition of adequate expenditures yet built up. Public bodies customarily show an inertia in making departures from their spending habits, especially where no great political pressure exists.

Analyzing the present health situation, there are three conditions under which it might be desirable to extend Dominion grants-in-aid.

First - certain areas are affected by specific problems of public health which do not affect other sections of the country except potentially. As had already been pointed out, the provincial service is rarely equipped to deal with such specialized problems of public health,

(36) The situation is probably more disturbing than is generally realized, if the results of the American governmental investigations of medical needs in that country have any significance for Canada. Miss Josephine Roche, Chairman of the President's Interdepartmental Committee on Medical Care stated (July 18, 1938) that the expenditure of \$850,000,000 (by all governments) is the gauge of the need now apparent.

and the province might easily be in a financial position where it feels unable to expend additional sums to cope with the problem. A conditional grant under such conditions might nip in the bud a potentially serious menace to public health.

Second - certain costly illnesses exist over the whole Dominion and are a drain on the taxpayer, yet not nearly enough attention is being paid to preventive work to reduce their incidence. Among communicable diseases, venereal disease and tuberculosis are serious enough to be matters of national concern. Furthermore, with communicable diseases, it is desirable to have high standards for the whole country because one backward area can be a source of infection and expense to other forward areas. Among non-communicable diseases, mental illness is outstanding because of its great and increasing expense and because relatively little preventive work is being done. A conditional grant-in-aid might be worth many times its face value in stimulating a programme of prevention. Another basic health problem is that of maternal and infant mortality. The death of infants and mothers is high in Canada and represents a serious loss to the country. This problem has already been discussed in Chapter 2; it need only be said that if a conditional grant stimulated practices that would reduce the rate of infant and maternal mortality, there would be no doubt of the net gain to the country as a whole. The state always stands to gain, aside from other considerations, by the addition to its ranks of useful working citizens.

Third - some of the provinces are limited in their taxable capacity. The problem of the unequal wealth of areas is one that faces all countries, and it is particularly important for federally organized states. It affects public health because usually areas with the most serious health problems are the least able financially to deal with them.

Some special considerations apply to the workability of conditional grants-in-aid for public health. In the first place, a relatively small grant has a relatively great effect. As has already been pointed out, a thoroughgoing preventive programme for the whole of Canada would cost all governments only about \$25,000,000. A conditional grant for some specific purpose would be a comparatively minor item in the Dominion's expenditures. The grant for venereal disease illustrates this point. During the war and immediate post-war, years, no problem of public health was more alarming than the prevalence of venereal disease. Yet Dominion grants that never exceeded \$200,000 a year had a great influence in controlling that disease and in setting up a permanent organization for dealing with it. Second, grants for public health are for supplementary services. They do not open up new fields, like unemployment relief, where the eventual liability of the Dominion is unpredictable. Third, every conditional health grant would be for a definite purpose and it would be practically impossible to use it even in part for other purposes. At least this was the experience in the operation of the venereal disease grant. Fourth, the results of grants for public health are measurable and hence they are more capable of control than most other grants. For instance, the provinces had to fulfil certain conditions to become eligible for the venereal disease grant.

They were:

- a) establishment of clinics with specialist physicians in charge of treatment; with sufficient assistants to carry on the work; efficiently and gratis to the patients.
- b) hospital beds for indoor patients; all treatment gratis.
- c) diagnostic laboratories for venereal disease work.

- d) efficient treatment for inmates of jails and places of detention.
- e) maintenance of a specialist in venereal disease diagnosis, treatment and propaganda to carry out the venereal disease work of the provinces.

It was easily ascertainable whether any province was fulfilling these conditions. In supervising the carrying out of the work, too, it was easy to decide whether or not accepted practice and procedure were being followed and standard equipment, drugs, etc. were being used. The administration of public health is a field in which professional standards rather than political ones, rule. It is probable that public health, as a specialized task for a professional personnel, is an unusually suitable field for co-operation and understanding in dual administration. At any rate, it is generally agreed that "The administrative relationships between the Dominion and the provinces were, on the whole, probably more continuously harmonious during the operation of this grant than in connection with any other subvention." (37)

Some general observations about grants-in-aid in the field of public health remain to be made. If such grants are to be limited in time, that should be made absolutely clear at the outset if possible; otherwise a good deal of bad feeling will be created when the grant is eventually terminated. This happened when the venereal disease grant, which the provinces understood would be permanent, was discontinued. Although the Dominion government had never announced that the venereal disease grants would be permanent, no specific time limit had been attached to them, and, although

(37) Luella Gettys, "The Administration of Canadian Conditional Grants", Chicago, 1938, p.110.

they were reduced from time to time, they were reduced according to no previously announced schedule. If the federal government had been clear at the outset on both these points, a good deal of ill-will might have been avoided. Grants for a specified period have their place, especially in demonstrating the value of a service in the hope that the voters of the province will be prepared to carry it themselves. The grants of the Rockefeller Foundation are on this basis and they have had considerable effect in stimulating such desirable developments, for instance, as health units in British Columbia. Their weakness is that they do not help areas of low income. The demonstration health unit at Gravelbourg in Saskatchewan, for example, was forced to close when the Rockefeller grant was withdrawn.

This fact points to a consideration that has already been mentioned. If conditional grants for public health are to produce maximum results, they should not be on a straight matching basis because this means that the poorest areas with the hardest problems are least able to take advantage of the grants. The recent LaFollette-Bullwinkle Bill for the control of venereal disease in the United States places the grants to the states on a threefold basis; population, the extent of the problem, and the financial means of the state. Some such basis seems necessary if the greatest progress is to be made in solving problems of public health.

APPENDIX I. THE SCOPE OF EXISTING SERVICES FOR PUBLIC HEALTH.

The scope of existing services for public health in Canada can be conveniently indicated under the branches commonly accepted as standard for a department of public health.

A. Vital Statistics.

The gathering, classification and study of data concerning natality, morbidity, mortality and demography; a record of health facts necessary for the guidance of health workers and for the formulation of suitable policies.

(a) Provincial.

British Columbia, Alberta, Saskatchewan, Manitoba and Quebec have divisions of vital statistics with trained full-time persons in charge.

Ontario.

Vital statistics are collected by the Registrar General (under the Provincial Secretary).

New Brunswick.

The Chief Medical Officer is responsible for the compilation of statistics, centralizing information from sub-district registrars.

Nova Scotia.

The Deputy Minister of Health is Registrar General.

(b) Dominion.

Vital statistics are compiled and tabulated for Canada by the Dominion Bureau of Statistics from information supplied by the provincial health services, except in Ontario where the statistics are compiled in the Provincial Secretary's Department. The Dominion Bureau of Statistics does excellent work in this field.

B. Control of Communicable Disease

This control is carried out by:

(a) Finding and segregating where necessary, the patient (human or other) to prevent the dissemination of the causative agent.

(b) Disinfection to destroy the causative agent released from the host.

(c) Building up the resistance of the individual by specific means as in vaccination or by non-specific means as improving the individual's general health.

(d) Treating the patient in his own interest and to reduce the duration of infectivity.

(e) Other means such as sanitation, food control, etc., which are applied in other fields.

Two of the communicable diseases are often considered separately in this respect, namely, tuberculosis and venereal disease.

(i) Tuberculosis

The principles already outlined apply here also but the problem is in some ways more difficult because of the chronic nature of the disease and its long infectivity.

(ii) Venereal Disease

The control of this disease is complicated by the moral aspect of the problem and the procedure adopted must respect the fear of the associated stigma. With both these diseases the education of the community must be stressed.

(a) Provincial

British Columbia

(a) Has no division of epidemiology. The Assistant Provincial Health Officer does a limited amount of epidemiological work.

(b) Tuberculosis control has seen important developments in recent years. A separate division has been established

under a part-time director who heads up a council composed in addition to himself, of the Provincial Health Officer, Deputy Provincial Secretary, Director of Social Welfare, Superintendent of Residential Institutions, and physicians in charge of clinics. The central office in Vancouver devotes itself to planning the work of the whole division. It correlates the work of the Tuberculosis Division with that of other branches of the Provincial Board of Health, the Vancouver Metropolitan Health Board and other health and welfare agencies. It publishes a monthly bulletin and a monthly abstract bulletin, both of an educational and statistical nature.

Clinics are maintained in Vancouver, Victoria and Tranquille, the Vancouver clinic being completely equipped to undertake diagnosis and treatment. In addition, the Division has four travelling clinics, one radiating from Victoria covering Vancouver Island, one radiating from Vancouver covering the lower mainland and coast, and two covering the interior of the province. There are preventive and treatment centres established at Prince Rupert, Trail, Kelowna, Nelson and Ladysmith. Their function is to do pneumothorax on cases discharged from institutions, to aid in the early reporting tuberculosis, to do the health educational work of the district, to help establish better methods of case-finding, and to initiate tuberculin-testing programmes. In an attempt to establish better methods of case-finding, special surveys are conducted among school-children and the employees of industrial firms in various parts of the province.

The province and the municipality share the cost of treatment with the latter paying one dollar and twenty-five cents per municipal patient per day. By order-in-council effective as from April 1, 1938, the municipal share was changed to 80 cents per patient day.

A supervisor of tuberculosis social service has been appointed, and every patient on admission is investigated from

a social standpoint. An attempt is then made to adjust the family circumstances, both during the time of residence of the patient and after his discharge. The Vancouver Occupational Industries has been established by co-operative endeavour to give chronically handicapped individuals an opportunity to rehabilitate themselves. In addition occupational training is given to patients while in institutions.

The tuberculosis division attempts to co-operate with the Workmen's Compensation Board so as to facilitate the examination of underground workers throughout the province.

To promote health education, pamphlets are distributed, educational lectures given, and exhibits held.

(c) Venereal Disease control. Because of the failure to make headway against these diseases, a separate division was established in October, 1936, under a full-time director who acts as a consultant to physicians in the province, and is responsible for two free treatment and diagnostic clinics operating in Vancouver, Victoria, Nanaimo and Trail, and for a consulting service to private physicians throughout the province. Cases attending the clinic are recorded so that its size may be kept at that commensurate with efficiency, and a control system of attendance and a follow-up service has been established. Patients leaving the city or province are referred to other clinics and doctors, and a record of their application for treatment is obtained.

An intensive educational campaign has been started. Pamphlets are available to the general public (particularly to teachers) and talking films are shown in different parts of the province. Publications of special interest to the medical profession are secured and printed by the Department for distribution to the physicians throughout the province. Education is carried on not only among patients and staff, but also with nursing and social service students, who are referred to the Division for experience.

A Social Service Department, consisting of a supervisor and three full-time social workers performs the functions of attendance-control, case-finding, examination of contacts, and education. The Social Service Department is used as the avenue through which patients are admitted and discharged from the clinic. Later it is hoped there will be time for dealing with the social problems of this group, approximately 60% of whom are unemployed and in many cases in need of social case work. Both the Venereal Disease Division and the Tuberculosis Division receive assistance outside of Vancouver from the trained social workers of the Welfare Field Service who are stationed throughout the province.

The estimates for the work of venereal disease control have been almost trebled since 1935-36.

Alberta

(a) Communicable disease control is under the Deputy Minister of Health.

(b) Tuberculosis control is a separate division under a full-time director who is Medical Superintendent of the Central Alberta Sanatorium in Calgary. The central office is located at the Sanatorium, but a branch clinic in the Edmonton General Hospital handles most of the work north of Red Deer.

A new policy of providing free treatment for all residents went into effect in June, 1936, and arrangements were made for sixty-five beds in the General Hospital, Edmonton, thirty-seven in the Royal Alexandra Hospital, Edmonton, twenty-two in the University Hospital, Edmonton, and eight in the convalescent home for men in Calgary - an increase of 60 per cent in the number of beds available. At the same time provision was made for the extension of the diagnostic service with a view to the early diagnosis of the patients suffering from the disease, and the location and control of sources of infection. Regular diagnostic clinics are conducted in four centres, and travelling clinics serve about thirty places.

(c) Venereal disease control

There is a Division of Social Hygiene, with a part-time director, which conducts free clinics at four centres and at each of the provincial gaols. Educational work is carried on, but owing to the reduction in funds available for travelling, the volume of work has been reduced.

Saskatchewan.

(a) Communicable disease division covers epidemiology, the treatment and supervision of trachoma, issue of vaccines and sera, isolation, quarantine and disinfection; care of the dead; venereal disease control with free diagnosis and treatment at several clinics.

(b) Tuberculosis control is under the Minister of Public Health but diagnosis and treatment is provided through the Saskatchewan Anti-Tuberculosis League which is independent of the Department of Health. This semi-official commission is made up of directors appointed as follows: five by the Province, five by the Association of Rural Municipalities, two by the Union of Municipalities (urban), one each by the Saskatchewan Medical Association and by the original members of the League, and one by the Government for the local improvement districts. The Provincial Government built the three sanatoria and turned them over to the League to operate. Free diagnosis and treatment is provided for all residents. The Provincial Government pays one dollar per patient per day to the League and the remainder of its income is provided by the municipalities on the basis of 60 per cent by the rural municipalities and 40 per cent by the urban. The League sets the rate of taxation and does its own collecting. The administration of tuberculosis control in Saskatchewan then, is entirely in the hands of an independent commission. The proceeds of the Christmas Seal Fund supports travelling clinics for the examination of suspected

(38)

cases. The service is highly developed.

(c) Venereal disease control.

There is no separate division and the care and the control of venereal disease is handled as a part of the work of the Communicable Disease Division. There are five public Venereal Disease Dispensaries, in addition to three clinics conducted at gaols.

Manitoba.

(a) Disease prevention.

This division is under the direction of an epidemiologist who supervises and assists in the control of communicable disease.

(b) Tuberculosis control.

There is somewhat the same administrative set-up as in Saskatchewan. The Sanatorium Board of Manitoba, a semi-official body, has direct control over the provincial sanatorium and gives grants to the tuberculosis section of the municipal hospital in Winnipeg and to the Roman Catholic sanatorium. It also operates travelling clinics throughout the Province. The government pays it 50 cents a day per patient and the remainder outside of Winnipeg, is collected by the government from the municipalities for the Board. Winnipeg pays a daily rate of \$1.50. Manitoba differs from the two other Prairie Provinces in requiring payment from those who are able to pay.

(c) Venereal Disease control is under the epidemiologist.

A free venereal disease clinic is maintained at St. Boniface Hospital. In addition clinics are held at six detention homes and gaols. There are no travelling clinics but drugs for treating syphilitics are supplied free to private physicians.

(38) "As a result of what has been accomplished in the last fifteen years, the vital statistics show Saskatchewan with the lowest tuberculosis mortality, not only of Canadian provinces, but of any country in the world" Hon. J. F. Urich, Public Health and State Medicine. A speech delivered in the Legislative Assembly of Saskatchewan, January, 1935, (Regina King's Printer, 1935).

Ontario.

(a) Preventable disease division.

Two full-time epidemiologists supervise and assist local boards in communicable disease control. There is free distribution of sera and vaccines for prophylaxis and treatment. Needy diabetic patients receive insulin, the province and municipality sharing the cost.

(b) Tuberculosis prevention division.

This division had a full-time director, two clinical specialists and three physicians in charge of travelling clinics. In 1936, 113 clinics were held in ninety-seven centres. At these clinics 8,856 persons were examined. Practically all the sanatoria in Ontario were built by local voluntary organizations with the government assisting with grants in some cases. (39)

Ottawa has one of the few civic institutions. The sanatoria developed extension clinics which covered about half the Province. The travelling clinics of the Provincial Government now cover the rest of the area. By the Tuberculosis Act of 1938 the province assumed the whole cost of diagnosis and treatment. Previously the municipalities paid at the rate of \$1.50 per day, which was too great a burden for some of the poorer municipalities with high rates of tuberculosis. As a result a considerable proportion of the people diagnosed as having tuberculosis did not get treatment. As the Provincial Government reserves the right to stop payment under the Act whenever it considers the patient sufficiently recovered, the municipalities are presumably responsible for follow-up work. This is considered

(39) This is a reflection of the greater wealth of Ontario. The government has had to carry the full cost of sanatoria in the western provinces and the Maritimes. Some windfalls accrue to Ontario in the field of tuberculosis as a result of it being the head office of so many national organizations. Examples are the recent gift of \$50,000 by The London Life Assurance Company to the London Sanatorium, and donations to the Christmas Seal Fund by the head office rather than by the branches of business firms.

part of the regular service in the four western Provinces on account of its importance in preventing relapses.

(c) Venereal disease control is under the preventable disease division. In 1936 there were eighteen venereal disease clinics receiving grants from the province, five situated in Toronto and one each in Hamilton, Brantford, London, Windsor, Owen Sound, Ottawa, Fort William, Kitchener, St.Catharines, Kingston, Peterboro, Sault Ste.Marie, and Sudbury. Since April 1, 1935, the payment given the clinics has been reduced from 35 to 25 cents per treatment, and the saving utilized as subsidies to municipalities without clinical facilities. Not all the municipalities, however, assumed their responsibility in this regard. In the case of patients from unorganized districts, physicians in the area are paid by the Department on the schedule of fees given the municipalities. Free drugs are provided the clinics and private physicians for the treatment of those unable to pay.

Quebec.

(a) Epidemiology and preventable disease.

This division supervises through regional health physicians the activities of the thirty-six health units which exist in the province. It also includes tuberculosis and venereal disease.

(b) Tuberculosis control.

There is a provincial and travelling diagnostic service which conducts tuberculosis clinics in all the health units. Public health nurses visit the homes of those found suffering from active tuberculosis to give them needed advice and to see that the directions of the treating physicians are being followed properly. An intensive campaign against tuberculosis is being carried on in the health units where tuberculosis dispensaries have been

organized. The Provincial Government has taken little responsibility in the building of sanatoria. It pays one-third of a per diem grant ranging up to \$2.00 per patient to hospitals caring for indigent tubercular patients, that is, those who come under the Public Charities Act. There are no payments at all for the large group of patients above the indigent class. In Montreal, the mortality rate of tuberculosis in 1937 per 100,000 was 82.6 for the French speaking population and 63.1 for the English.

(c) Venereal disease control is under a division of venereal disease with a director in charge. Requests for treatment may be may be addressed to the division of venereal disease by persons living anywhere in the Province. There are forty-five centres of treatment, including The Women's Gaol in Montreal, Bordeaux Gaol, Quebec Gaol, and St. Vincent de Paul Penitentiary. A great number of patients who haven't the means to be treated by their own physician go to the clinics of the general hospitals to receive treatment, the physicians giving services to indigents without receiving remuneration. In places where there are no centres of treatment, the division of venereal disease distributes to the physicians, following a request from the latter and when the diagnosis is confirmed by the laboratory, the necessary drugs for the treatment of indigent syphilitics. The division carries on a campaign of education.

New Brunswick.

(a) There is no central provincial organization but the ten District Medical Health Officers are responsible for communicable disease control in their respective districts, which cover the whole province.

(b) Tuberculosis control.

The District Medical Health Officers are responsible for tuberculosis control and most of them have been

given special training for the work. There are three sanatoria, one a provincial institution, one a civic and one a Roman Catholic; all have waiting lists, so that a considerable time elapses after a case is found before it can be admitted to a hospital. In 1937 the province increased its grant from 75 cents to \$1.00 per patient per diem, the municipalities being responsible for the remainder. About 75 per cent of those admitted to tuberculosis hospitals are charges upon their municipalities.

(c) Venereal disease control. There is a part-time director, and eleven district clinics are operated in the following centres: Andover, Bathurst, Campbelltown, Chatham, Edmunston, Fredericton, Minto, Moncton, Saint John, St. Stephen-Milltown, and Woodstock. While these clinics provide diagnosis and treatment for the larger centres, there are many patients who find it impossible to attend them because of distance from their homes, and for these the Department of Health furnishes drugs to physicians who are willing to administer treatment. No remuneration is provided for physicians treating patients who are unable to pay.

Nova Scotia

(a) Communicable disease control. The Deputy Minister of Health, as chief health officer, is directly in charge of communicable disease control. Field investigations of communicable diseases, to establish diagnoses and to make epidemiological studies, are

essentially his responsibility. In the discharge of this duty, he may call upon the services of the two divisional medical health officers.

(b) Tuberculosis control.

The Deputy Minister of Health is in charge of tuberculosis hospitals. There is one provincial sanatorium, one institution operated by the city of Halifax, and four tuberculosis units in general hospitals. The hospital units have developed into centres where pneumothorax treatment is carried out in addition to the usual rest cure. The municipality must pay \$1.50 per patient per day in the provincial sanatorium and the Province makes up the deficit. The Province makes some payments (about \$1.00 per patient per day) to the cost of the patients treated in the hospital units.

A travelling hospital diagnostician is employed and the two divisional health officers devote much of their time to tuberculosis control. Their main function is the operation of travelling tuberculosis clinics. These clinics are held in convenient places throughout the Province; but in appropriate cases examinations may be made in the homes. Their purpose is to supplement the services of local physicians in uncovering cases of tuberculosis. Public health nurses co-operate with the divisional health officers and practising physicians in follow-up work in the home. The government is in the process of introducing the New Brunswick system of specially trained district medical health officers who shall be responsible for tuberculosis control among other things.

(c) Venereal disease control.

There is no division of venereal disease control, the Deputy Minister of Health being responsible for this work. Five clinics, in charge of part-time local physicians, are operated at Halifax, Sydney, Yarmouth, Amherst, and New Glasgow. There are no travelling clinics but practising

physicians are supplied free of charge with drugs to treat indigent patients brought to their attention.

Prince Edward Island.

(a) Communicable disease control.

The Deputy Minister of Health personally supervises, whenever possible, all cases of communicable diseases throughout the province, and advises the local boards of health of the necessary control measures.

(b) Tuberculosis control.

The Deputy Minister of Health is responsible for tuberculosis control, while the medical superintendent of the provincial sanatorium is provincial chest diagnostician and Assistant Health Officer. Clinical examinations are held weekly at the provincial sanatorium, and to this clinic come referred cases from physicians in the city of Charlottetown and throughout the Province. In addition, a monthly tuberculosis diagnostic clinic is held in Summerside; and others in Kensington, Alberton, Tignish, Souris, and elsewhere at intervals during the year when travelling by car is possible.

(c) Venereal disease control is a responsibility of the Deputy Minister of Health. Regular weekly clinics are conducted in Charlottetown and Summerside for male and female cases, and all indigent cases not being treated by private physicians are required to attend. In addition, all prisoners in Queen's and Prince Counties are examined for venereal diseases, and treatment is administered when necessary. Indigent cases, in sections of the province remote from clinics, are required to make arrangements with their local physician for treatment, and all necessary drugs are supplied free of charge to the physician.

(b) Dominion.

(i) Communicable disease.

It is the responsibility of the Dominion Government to prevent disease from coming into the Dominion from external points. Internally the federal Department is responsible for the care of lepers and for communicable disease amongst people employed in the construction of public works. The Department of Mines and Resources is responsible for the health of Indians and Eskimos. The Division of Epidemiology has been created to study the problems of communicable disease and to assist in their control.

(ii) Tuberculosis.

The control of tuberculosis among the Indians is under the Director of Medical Services of the Department of Mines and Resources. More stress is now being placed on this problem and appropriations made by the Dominion Parliament were \$275,000 this year compared with \$50,000 the previous year. The facilities of the provinces are used in carrying out this programme.

(iii) Venereal disease.

The startling statistics gathered during the Great War regarding the prevalence of venereal disease stimulated governmental activities in this field of public health in both the United States and Canada. Under the Chamberlain - Kahn Act in the United States the federal government made a grant of one million dollars to the states for the control of venereal disease, a grant of one million dollars to the Secretary of War and Navy, and a grant of four hundred thousand dollars for medical research and education. In 1919, the Dominion Government appropriated two hundred thousand dollars to be used at the discretion of the Department of Health in fighting venereal disease, in co-operation with the provinces. In 1925 the grant was

reduced to \$150,000, in 1926 to \$125,000 and in 1927 to \$100,000 and 1931 it was discontinued.

The grant was allocated to the provinces on the basis of population provided that each province agreed to spend at least a similar amount. The continuation of the grant depended upon the Department of Health being satisfied that "real substantial work has been done by the province in carrying on its campaign".⁽⁴⁰⁾ All of the provinces entered into agreement with the Dominion every year that the grant was given except Prince Edward Island, which made agreements in 1924 and from 1928 to 1931. The total amount paid to the provinces for the period of the grant was⁽⁴¹⁾ \$1,632,986, divided as follows:-

Prince Edward Island.	\$ 5,281.
Nova Scotia	98,490.
New Brunswick	63,073.
Quebec	442,989.
Ontario	545,474.
Manitoba	111,245.
Saskatchewan	142,673.
Alberta	110,994.
British Columbia	112,768.

In addition the provinces themselves spent \$2,747,842.

As a result of these steps a system of venereal disease clinics was established across the whole Dominion. The operation of the system was marked by effective co-operation between the Dominion and the provinces and by constructive leadership on the part of the Dominion Division of Venereal Disease Control and the Dominion Council of Health.

The work of the Canadian Social Hygiene Council (now the Health League of Canada), a private organization which received \$120,000 from the Dominion grant during this period, was of particular value in educational work and publicity.

(40) By Order in Council of December 18, 1919.

(41) Figures compiled by the Health League of Canada from the Department of Pensions and National Health, manuscript file relating to venereal disease.

C. "The Hygienes"

Maternal hygiene, infant hygiene, pre-school hygiene, and school hygiene are commonly associated, although they may be set up as separate divisions depending upon the size of the health department and the type of work it stresses.

(a) Maternal hygiene.

This aspect of public health covers the proper management of the puerperal state (pregnancy, confinement and post confinement) to prevent subsequent disability and maternal death. Success here depends upon: 1. the training and experience of the physician and nurse, 2. attention to the general health of the mother, 3. the education of the mother in matters related to her condition, 4. provision of facilities for the proper conduct of the condition throughout its various stages, 5. consideration of related social problems.

(b) Infant hygiene.

Is concerned with the reduction of infant mortality and the promotion of infant welfare through: 1. the proper management of the puerperal state, especially the general health of the mother and the safe management of the confinement, 2. education of the mother in the care of the infant, its nutrition and protection from communicable disease.

(c) Pre-school child hygiene.

Is an extension of infant hygiene with more attention to disclosed congenital or acquired defects.

(d) School hygiene.

The primary purposes of this division of public health are: 1. to detect the spread of communicable disease, 2. to ensure sanitary conditions at the school plant, 3. to discover physical and mental defects early and to see that appropriate steps

are taken for their correction, 4. to promote balanced physical development, 5. to educate the child in matters of community and personal hygiene and in principles of healthy living.

No province has a separate division for any of these four fields of public health. In most provinces the work in the first three fields is done by public health nurses.

(a) Provincial

British Columbia

Maternal, infant and pre-school services are conducted by public health nurses attached to the Local Boards of Health. They are responsible for the examination of pre-school and school children, the organization of toxoid and vaccination and of dental clinics, the holding of well-baby clinics and the examination of infants in the homes, the visiting of pregnant women and, through the co-operation of the Provincial Board of Health, the sending of monthly prenatal and postnatal letters to all known pregnant women and mothers of infants. These are followed by pre-school letters on the care of the child from fifteen months to six years. Child welfare clinics are operated by all health units and by a number of the local health departments. In these areas there is particularly good provision for infant hygiene. In other places, where the local health services are carried on by the municipal authorities under the direction of a medical health officer who is generally a part-time appointee, very much less is done. Apart from the districts where there are health units, school medical services are under the jurisdiction of the local educational authorities. They are therefore separate from the general public health services authorized by the Health Act, although in some instances the same public health nurses serve both the municipal health department and the local school board. Under the Public Schools Act it is required that all school children receive a medical examination each year. This work is carried on by the school medical officer, with the assistance of school nurses or of generalized public health

nurses who have school work within their jurisdiction.

Alberta

This work is carried on by the Public Health Nursing Division under a Superintendent of Nurses. The work of the division in Calgary and Edmonton is devoted entirely to child welfare, infant and pre-school clinics, with follow-up work in the homes. In the remaining nineteen districts served by public health nurses, the work consists of a generalized programme of public health nursing and child welfare. The organization of child welfare clinics for infant and pre-school children, the inspection of school children, the distribution of pre-natal, post-natal and pre-school letters, the presentation of radio talks and of addresses to women's organizations, and the inspection of children's shelters and baby homes, are some of the duties of the public health nurses. District nursing in outlying areas of the province is a most important service of this branch. Medical inspection of school children is conducted by some of the school boards under authority contained in the School Act. Recently legislation was introduced enabling school boards to transfer this responsibility to the local Boards of Health. Calgary has made the change. In the two rural health units, the health services conduct a full programme of school hygiene.

Saskatchewan

Under the maternal and child welfare and public health nursing division, a supervisor and ten public health nurses are responsible for maternity grants and organizing assistance in child welfare and baby clinics; instruction in infant feeding, nursing and pre-natal care; inspection of nursing and maternity homes and schools; inspection of pre-school and school children and assisting in the treatment of

trachoma. This important work, which gives many areas their only facilities for maternal and infant hygiene and for medical inspection in schools was considerably curtailed because of the drought and depression. Dental clinics are organized in schools in drought areas and financial assistance is given in all cases of defective vision among children in those areas. Cases of orthopedic defect are reported and are accepted for treatment by the Junior Red Cross Society and the Shriners Hospital.

Health is a compulsory subject in Saskatchewan schools from grade I to grade X inclusive, 4 per cent of the school time being devoted to such teaching, both formal and informal. Student teachers in normal schools are given instruction in methods of health teaching by special instructors who are public health nurses and who are full-time members of the faculty. Nutrition is taught in the normal schools by special home economics instructors. Health literature is sent free to schools in the province from the Department of Public Health.

Manitoba.

A division of maternal and child hygiene is being established as from July 1, 1938. Hitherto, this work has been carried on by the public health nursing division. The public health nurses examine school children, give classroom talks to promote health training, visit homes for the purpose of giving health instruction and demonstrations in pre-natal and post-natal care, infant welfare, care of children of pre-school ages, and the care of school children, hold summer child health conferences, establish child welfare stations, arrange for and assist at dental clinics held by the Manitoba branch of the Canadian Foundation for Preventive Dentistry for school children in rural Manitoba, inspect at least once during the year in rural districts and

oftener in Winnipeg, children's boarding homes, day nurseries, child-caring institutions, and private maternity homes.

Ontario.

The child hygiene and public health nursing division supervises the local services in this field. It has a full-time director, a full-time chief public health nurse and a staff consisting of the following: four nurses who supervise public health nursing in the province, one nurse who conducts generalized public health nursing in Temiskaming, one nurse engaged in developing health teaching, and one supervisor and eight staff nurses in the Eastern Counties Health Unit. The interest of the division in the field of maternal hygiene is largely confined to an effort to uncover the significance of the various factors which presumably contribute towards deaths among pregnant women. In school hygiene, school health services were, prior to July 31, 1924, inaugurated by Boards of Education or School Boards under the authority of the Department of Education. Following that date, responsibility for the carrying on of this programme was transferred to the Department of Health and services may now be initiated only under the auspices of the local Boards of Health. Provision was made, however, to permit the school authorities in any municipality in which the service was in effect prior to 1924 to continue the operation of such service. At the present time the division supervises the local programmes carried out in the 105 centres in which school health supervision forms a significant part of the community health programme. Handicapped children of school age, in the rural and smaller urban centres who require special teaching, receive physical examinations under the auspices of the division at the request of the Department of Education. In the Eastern Counties Health Unit, the reduction of the very high rate

of infant mortality was a problem requiring urgent attention when the unit was organized; child health conferences are held each month and follow-up visits are made by the nurses to the mothers. A large portion of the time of the nurses in this unit is devoted to the inspection of schools.

Quebec.

The work is carried on by public health nurses attached to the health services of the larger cities and to the thirty-six health units. Particular attention is given to maternal hygiene by the health nurses and by medical officers. Lectures on maternal hygiene, and private demonstrations to mothers who are unable to attend the public lectures or demonstrations, are given, and, in addition, health nurses make pre-natal and post-natal visits for the purpose of teaching the mothers what they should or should not do before and after confinement. The personnel of the health units, with respect to the child, concentrate their efforts on inculcating in him the principles of modern hygiene and of healthy living. Children's clinics are held, and, to follow up these examinations, children are visited at their homes. In schools, lectures are given and the school children examined. Defective children are referred to the family physician, dentist or oculist, and, for a certain number of weakly children found to be under normal weight, nutrition courses are given. The high rate of the infant mortality in colonization areas has been dealt with by multiplying the number of nurses in these areas, by visits from the Provincial Bureau of Health, and by distributing prepared milks for the infants of poor settlers. The provincial officer in charge of the nutrition division assists in field work throughout the province in maternal and child hygiene.

New Brunswick.

Public Health nursing is carried on by public health nurses supervised and subsidized by the Department of Health and by the Victorian Order of Nurses subsidized by the Department. In addition, the city of Saint John employs full-time child welfare nurses and school nurses and in Moncton, a school nursing service is maintained by the school board which reports to the Department of Health. Their work is co-ordinated by the Director of Public Health Nursing who is a trained nurse. This organization carries on health teaching in the classroom, inspects school children, visits homes, distributes by mail or through the public health nurses pre-natal and post-natal letters, holds well baby conferences, conducts field work in pre-natal care and child welfare, arranges for serving milk in schools and holds dental and tonsil clinics. The ten district medical health officers in their respective districts inspect and examine school children and perform vaccinations.

Nova Scotia.

Work in these fields is done by the public health nursing and child hygiene service which employs twelve nurses under the direction of a superintendent. The public health nurses inspect classrooms and examine school children, visit homes in connection with pre-natal and post-natal care, supervise the pre-school child through visits, assist in providing dental and immunization treatments, and send out literature on the care of children. There is a permanent maternal and child welfare clinic in the city of Halifax.

Prince Edward Island.

This work is carried on by a nurse supervisor and four district nurses employed by the Province, all of whom have been trained in public health work. Their duties consist of the inspection of schools and school children, home

visiting and assisting at and arranging for dental clinics
(42)
for school children. The supervisor in addition assists
at the clinics of crippled children, and in general supervises
after-care in the homes. A new activity, that of child health
conferences, was started in 1937 in order to have a definite
time for weighing babies and pre-school children when a nurse
would be present for a conference with mothers on the care and
training of children. These are held once a week in Charlottetown
and once a month in Summerside.

(b) Dominion.

The division of child and maternal hygiene assists
in co-operative activities, co-ordination and education and
studies problems pertinent to this field. In addition, the
Dominion Government gives grants to the Canadian Welfare
Council, the Victorian Order of Nurses, the St. John Ambulance
and the Canadian Red Cross.

D. Food and Milk Control.

Food and milk control is at present mainly directed
toward the protection of the public from:

- a. communicable disease;
- b. the poisonous products of bacteria;
- c. other forms of chemical poisoning.

Recently there has grown an effort to assess and guarantee
the nutritional value of food. No province has a separate
service for this division; most of them deal with it under
"Sanitation".

E. Sanitation.

This aspect of public health is directed to the control
of the physical environment by:

(42) The Health Department assists in financing the dental
clinics, defraying one third of the expenses - the district
in which the clinic is held contributing the difference.

- a. providing and protecting a safe water supply.
- b. protecting against communicable disease through the safe disposal of garbage trade waste and body waste and through the removal of street dirt; attending to community cleanliness for aesthetic purposes (indirectly a health factor).
- c. town planning, which has been defined as the planning of a stable, well balanced physical structure, so designed as to secure health, safety, amenity, order and convenience and generally to promote human welfare. Some phases considered are the location of industries and the housing arrangements for the employee; housing in relation to attractiveness of surroundings and density of population; space for recreation; zoning to accommodate various needs; maintenance of ample space for light and air about buildings.
- d. requiring suitable plumbing construction in buildings for the safe collection and removal of liquid and related wastes; and inspection to protect against faults menacing health.
- e. making regulations for housing, assuring safe construction, suitable lighting, heating and ventilation and the prevention of overcrowding.

(a) Provincial

British Columbia

There is no division of sanitation in the Provincial Board of Health, the provincial sanitary inspector reporting directly to the Provincial Health Officer and other sanitary matters being handled through the office of the Provincial Health Officer. There was no provision for a qualified sanitary engineer, but, by an amendment of the Health Act in 1937, persons appointed as sanitary inspectors are required to hold the certificate in sanitary

inspection (Canada) or equivalent certificate issued by a competent authority which is acceptable to the committee on the certification of sanitary inspectors of the Canadian Public Health Association. There is some conflict over the jurisdiction for milk control. The Health Act gives control of that product to the local board of health, but under the provincial Milk Act it appears that the Minister of Agriculture is responsible.

Alberta.

The sanitary engineering and sanitation branch includes food and milk control. The staff of the division consists of a qualified sanitary engineer, one full-time health inspector and one half-time health inspector. The division adopts the policy of attending to specific complaints and requests, rather than providing an annual inspection for each town, village and hamlet in the province. Special efforts are made to check intestinal disease outbreaks in various parts of the province, and if possible to determine the source of the outbreak. An attempt has been made to have all dairy cattle providing milk for table use tested for bovine tuberculosis. Towns and hamlets are visited by health inspectors as a result of complaints received by the provincial Board of Health or as a result of requests made for assistance. The Department prepares circulars to be used in connection with the new health courses prescribed by the Department of Education for the intermediate schools, and radio addresses dealing with sanitation and general health problems are given over different networks throughout the province.

Saskatchewan.

The sanitation division is under a qualified full-time engineer who is responsible for the approval of sewerage systems and sewage disposal, the destruction of trade wastes

and refuse, hospital construction, and the union hospital organization. Through eight district sanitary officers covering the province he is responsible for urban and rural sanitation, milk, water and ice control, supervision of methods of food distribution, summer resorts, schools, tourist, construction and lumber camps, plumbing inspections, drainage and water supplies for public and private institutions, and the approval of creamery and cemetery sites. Every town and village is yearly awarded a score for sanitary environment, and many communities request the assistance and advice of the division in the hope that they will head the list.

Manitoba.

The work of the division of sanitation is carried on by a chief sanitary inspector, assisted by three qualified sanitary inspectors. There is also a division of food control with a director in charge. The work of the sanitary inspectors includes the general routine inspection of premises serving the public, dairies, water supply, sewerage systems, etc. The division of food control is responsible for the condition of food and milk for sale. The regulations of the Public Health Act respecting the slaughter and sale of meats, which are designed to afford some measure of protection to the consumer and to prevent the creation of a nuisance in the process of killing and dressing, imply some official contact with, or knowledge of, the slaughter of all meats intended for sale as food. The Health Act contemplates the sanitary supervision and control of public eating houses, laying down certain provisions regarding the sanitary construction of buildings in which public meals are to be served, and the sanitary storing, preservation, preparation and general handling of foods. It also provides for the licensing of restaurants by the Minister. With the exception

of Winnipeg and Brandon where a measure of supervision is exercised by city officials, and the north country and Winnipeg Beach where restaurant supervision is carried on by officers of the Department of Health and Public Welfare, no organized effort to apply these sections of the Act has yet been attempted. In pursuance of a plan of co-operation between municipal health officers and the division of food control for the safeguarding of local milk supplies, an effort is being made to improve the sanitary quality of milk in various centres, but the success of this plan is largely dependent upon the attitude of the municipal council.

Ontario.

The sanitary engineering division has eight qualified engineers, one of whom is director, two chemists and a sanitary investigator. Its scope includes the installation and operation of water-works, sewerage and the disposal of sewage, the collection and disposal of refuse, the checking of stream pollution, and supervising sanitation. In 1936 the health officers, rather than the sanitary engineering division, were made responsible for the inspection of tourist camps, highway refreshment booths and similar facilities, reporting to the Department on their inspections; the division, however, carries on some supervision in the lake region and in those places where tourists congregate in the summer. A distinct change was brought about in milk legislation in 1936. New regulations were introduced under the Milk Control Act through which the Department of Health was charged with the supervision of all milk distributing plants throughout the Province, including both raw and pasteurized supplies. These plants are examined by members of the staff of the sanitary engineering division, although the local municipalities continue to carry on inspections as before and in co-operation with the Department. An even more far-reaching change in milk legislation was introduced in 1938. Under this legislation, after October 1, 1938, for all cities and towns, and after December 31, 1938, for certain villages, raw milk and milk products must be pasteurized.

Quebec.

The division of sanitary engineering is in charge of a chief sanitary engineer, with an assistant to the chief and five sanitary engineers. The work of the division involves the examination of plans and specifications of proposed water supplies and sewerage systems and of water intakes and nuisances (the Quebec Public Health Act requires that plans of proposed water-works and sewerage systems be submitted to the approval of the Director of the Provincial Bureau of Health before being executed), the sanitary control of water filtration plants and water chlorination apparatus, the examination of proposed milk pasteurization plants and the sanitary control of the existing plants, the sanitary survey of public bathing beaches, and the epidemiological study of typhoid fever and dysentery outbreaks.

New Brunswick.

The ten district medical health officers are ultimately responsible for food and milk control, but untrained part-time sanitary inspectors are immediately in charge. This service is not up to accepted standards of practice, and sanitary engineering as such is lacking. Services vary greatly from district to district. Some have sanitary, food and milk, and plumbing inspectors while others have only sanitary inspectors. The inspection of lumber camps has given considerable trouble as these enterprises are not conveniently accessible to the sanitary inspectors, and it has been recommended that the Department of Lands and Mines should charge their forest rangers with the task of inspecting and reporting upon their condition.

Nova Scotia.

A specially trained engineer, in charge of the Bureau of Sanitary Engineering, gives a consulting and

advisory service to local health officers and others in the promotion of safe water supplies, adequate sewage disposal, hygienic milk dairies and sanitation generally. Routine inspections of public water supplies and pasteurizing plants are carried out, and inspections of hotels and tourist camps are made in some of the central counties while work of this nature is also done in other parts of the Province by some of the medical officers of the Department.

Prince Edward Island.

The health department has one full-time provincial sanitary officer. During the season when travelling permits, he periodically visits and inspects various premises of public interest and investigates complaints concerning unsanitary conditions in the Province.

(b) Dominion.

Regarding food the Federal Department establishes standards and sets the limits of variability for articles of food including imported food and those dealt with by the Department of Agriculture. Canadian oyster beds supplying the United States must be approved by the Department. The Department of Agriculture (Health of Animals Branch) inspects during production, meat, meat products and canned food, where such articles are intended for interprovincial and export trade. The service is not designed principally for Canadians, but is provided because countries to which we export demand this protection.

Milk. The Department of Agriculture (Dairy and Cold Storage Branch) supervises the manufacture of concentrated milk, the standards of which are set by the Department of Pensions and National Health. The Health of Animals Branch (Contagious Disease Division) inspects cattle and dairies in Quebec and Ontario, where the milk is

to be shipped into the United States.

Sanitation.

The Department of Pensions and National Health supervises the sanitation of railways, boats, ships and other public transportation facilities, federal public buildings and boundary waters. The Department of Mines and Resources is responsible for town planning and sanitation in national parks and Indian reserves.

F. Industrial Hygiene.

This aspect of public health interests itself in the worker's health by:

- a. improving sanitary conditions for the worker, whether in the shop, factory, office or elsewhere; setting up standards for lighting, work, posture, ventilation, special industrial hazards, noise, fatigue, etc.
- b. conducting physical examinations of the workers as a protection for himself and his fellow workers.
- c. providing for first aid and other treatment.

There is no special provision for this type of public health work outside of Ontario and Quebec.

(a) Provincial.

Ontario.

The staff of the Industrial Hygiene Division consists of a director, clinical specialists, special research workers, physicists and two chemists. Their work consists of educating industry in the value and need of applying the principles of this branch of hygiene; studying social problems presented by industry generally and specific problems appearing in any plant; and giving assistance to industry. District sanitary inspection is provided in six areas.

Quebec.

Quebec has a qualified medical officer in charge of this work. In August, 1938, the Minister of Health announced that the work in industrial hygiene would be extended and that a survey of industrial sickness throughout Quebec would be instituted in the near future. (The Gazette, Montreal, August 23, 1938.)

The expenditures of Ontario and Quebec on industrial hygiene during 1936-37 were \$51,000 and \$1,000 respectively.

(b) Dominion.

A Division of Industrial Hygiene has recently been established. This division will study the problem of the worker and encourage the adoption of means to improve sanitary conditions in shops, factories, offices and elsewhere and give the necessary attention to the various factors concerned. It will also encourage periodic physical examination of the worker and the provision of first aid and other treatment.

In the medical supervision of sick leave and superannuation on medical grounds within the Civil Service, certain principles of industrial hygiene are applied to government employees. This service provides for an examination of applicants for employment in the government service and for superannuation; certain special diagnostic services; supervision of sick leave; supervision of working conditions, including the question of adjustment between the worker, his job, and his supervisor. Through this service, valuable morbidity statistics are being accumulated and studied.

G. Mental Hygiene.

This division of public health covers:

- a. the protection of mental health by the study and management of causes of mental disease and breakdown;
- b. treatment of the insane;

- c. training and treatment of the mentally defective;
- d. treatment of epileptics;
- e. treatment of psycho-neurosis and lesser emotional disabilities.

(a) Provincial

British Columbia

The mental hygiene services are a separate branch of the Department of the Provincial Secretary and are under the general direction of the General Superintendent of Mental Hospitals and Provincial Psychiatrist. The province operates three mental hospitals. The Psychopathic Division was organized in 1936 directly under the General Superintendent and Provincial Psychiatrist to carry on social service work, mental hygiene clinic work and educational work. As this Division operates on a small budget (about \$20,000 for 1938), its work is necessarily limited. The first mental hygiene clinic was begun in Vancouver in 1932, with the establishment of the Child Guidance Clinic on a part-time basis. This service has since been extended in Vancouver to adults and is now on a full-time basis. Clinics are also held at regular intervals in Victoria, Nanaimo, and Chilliwack. Three social workers are attached to the mental hospitals who do work both for the hospitals and for the clinics. A limited amount of educational work is done. In particular, lectures on mental hygiene are given at the University of British Columbia to the public health nursing and social service students, and lectures are also given to the Vancouver Normal School students.

The number of operations performed under the legislation authorizing the sexual sterilization of the mentally ill has been insignificant because of the restrictions laid down in the statute. The record of operations has been as follows: 1934, 2 females; 1935, 4 males, 5 females; 1936, 4 females; 1937, 7 females.

Alberta

There is a division of mental health heading up the work of the Eugenics Board, the mental health clinics, the Provincial Mental Hospital, Ponoka, including the

Provincial Auxiliary Hospital, Claresholm, the Provincial Mental Institute, Edmonton, and the Provincial Training School, Red Deer. Mental hygiene clinics are held in Edmonton, Calgary, Lethbridge, Medicine Hat, Drumheller, and numerous other places especially in the Peace River district. The examination of cases is carried out by members of the staff of the four mental hospitals, and some follow-up work is done on the cases discharged from the various mental institutions as well as on some of the eugenics cases. Education in mental hygiene is conducted by the same people. The work of the Eugenics Board is carried on under the authority of the Sexual Sterilization Act, passed in 1929. Seventy-seven operations were performed during 1936 by surgeons appointed by the Board, bringing the total number of operations up to the end of 1936 to 475.

Saskatchewan.

There is a Division of Mental Hygiene which correlates, directs and supervises the work of prevention, treatment and care of the mentally diseased and mentally deficient cases in mental institutions and in gaols. It also supervises the psychopathic wards in general hospitals, mental hygiene in child clinics and the system of parole. The Division is headed by a Commissioner of Mental Services who is Superintendent of the Mental Hospital at North Battleford. The province has three institutions: the Mental Hospital, North Battleford, the Mental Hospital, Weyburn, (which includes a school for mental defectives) and the Psychopathic Ward, Regina General Hospital. In the way of preventive and educational work, the Commissioner of Mental Services is called upon to address meetings in the community, particularly Women's organizations. Literature is also sent out to district nurses.

Manitoba.

There is a Division of Psychiatry in the Provincial Department of Health and Welfare under the Provincial Psychiatrist who is in charge of the Psychopathic Hospital, Winnipeg. He is responsible for the operation of the Psychopathic Hospital, Winnipeg, the Brandon Hospital for Mental Defectives, the Selkirk Hospital for Mental Diseases and the Manitoba School for Mental Defectives at Portage la Prairie. The Brandon Hospital maintains an out-patient clinic, with a physician in charge. The Central Clinic in Brandon is carried on weekly, while other clinics are held at such places as Minnedosa, Russell, Virden, Dauphin, Souris, Boissevain, and Shoal Lake. The work in the clinic is being consolidated by greater continuity of contact between it and the community through follow-up letters to teachers and relatives, follow-up work through the clinic nurse, and through attempts to get in touch with and interest local youth organizations. Educational work is carried on through the development of a mailing list of persons who are interested in keeping abreast with mental health topics and by discussing problems of mental health at meetings of various organizations. The physicians of the Manitoba School for Mental Defectives act as consultants and give an out-patient service to the Children's Aid Society of Central Manitoba, the Portage la Prairie Provincial Gaol, and the Manitoba Home for Boys.

Ontario.

The Department of Health is directly responsible for the maintenance, supervision and administration of the thirteen provincial mental hospitals. In accordance with the view that the problem of mental disease calls for a constructive public health effort in the community, a special field staff has been trained and is now offering throughout the province a consultative service to physicians in respect

to problems of mental health. Six travelling mental health clinics operate from the mental hospitals and have as their major objective the early recognition and preventive treatment of those persons who are showing indications of poor mental health. They also assist in the early removal of recovering patients from mental hospitals and in their readjustment and supervision in the community. A special effort is made to locate and treat children who are showing, to an excessive degree, the unhealthy personality trends which are shown to be characteristic of those who later become mentally ill. The mental health clinics have been assigned, for the direction of their work with children, to the Division of Maternal and Child Welfare in order to insure a proper co-ordination among the various school health services. Representatives of the Department regularly participate in various teacher training courses arranged by the Department of Education and are made responsible for those aspects of training which have to do with physical and mental hygiene.

Quebec.

A Division of Mental Hygiene is being added to the Provincial Department of Health. Provincial mental hospitals are maintained at Baie St. Paul, Bordeaux, Camelin, Mastai, St. Ferdinand, and Verdun. A training school is also maintained at Mastai.

New Brunswick.

The Province conducts a mental hospital at Saint John. There is no mental hygiene service apart from twelve ungraded or "opportunity" classes for backward or mentally defective children in the public schools. Eight are in Saint John City, two in Fredericton and one each in Moncton and Campbellton. The Department of Health pays one-third of the cost of special training of teachers for such classes,

the balance of the expenditures being borne by the Department of Education and by the local school board.

Nova Scotia.

A provincial mental hospital is maintained at Dartmouth and a Training School at Brookside, Truro. They are under the control of the Minister of Health who is assisted in the administration of these services by the Chief Health Officer and by medical superintendents and commissions. In conformity with the Children's Protection Act, a psychiatrist is engaged on a full-time basis, and her services are utilized in connection with juvenile courts and children's aid societies. Candidates for admission to the provincial training school for mentally deficient children are passed upon by the psychiatrist, and a similar service may be given to candidates for admission to, and discharge from, institutions for the harmless insane. Furthermore, the psychiatrist's attention is given to children with behavior problems, necessitating visits to homes and schools; and conferences are held to talk over children's difficulties and to plan a method of helping them and their parents. Municipalities or towns, singly or in groups, may erect asylums for idiots and epileptics without violent manifestations, provided the plans for such institutions are approved by the Governor-in-Council, and provision is also made for municipalities to support harmless insane persons in other asylums. The management of these institutions is vested in the municipal or town councils, but the by-laws of the council are to be satisfactory to the Governor-in-Council, and furthermore, the latter is empowered to amplify existing statutory provisions by making regulations. No person is committed to these institutions, except temporarily, until authorization for admission has been secured from the inspector. Provision is made for the inspection of these institutions. Fifteen of such municipally owned and

operated county institutions are now in existence. Ten auxiliary classes for retarded students have been established in connection with public schools. The only educational work done is what the provincial psychiatrist has time to give.

Prince Edward Island

There is no separate division for this service. A provincial mental hospital is maintained at Charlottetown.

(b) Dominion

No general service is provided by the Department of Pensions and National Health but the pensions section has a well organized service for pensioners. The only present means of effecting co-ordination and assisting the provinces and their local services lies in the Canadian National Committee for Mental Hygiene, which does valuable work.

H. Degenerative Disease

This division of public health seeks to control certain diseases most common in middle life by,

- a. study of causes and effective means of control,
- b. establishment of clinics for cancer and heart disease,
- c. periodical physical examination.

(a) Provincial

British Columbia

There is no cancer clinic under the Provincial Board of Health. A cancer clinic is now being established at the Vancouver General Hospital as the result of a private gift of \$50,000, but so far there has been no provincial contribution to this clinic.

Alberta

The province has a cancer committee to study means of improving services for diagnosis and treatment.

Saskatchewan.

A Cancer Commission which is responsible to the Minister through the Council of Public Health, was created in 1930. Its functions are to study the problems of cancer and to provide services for diagnosis, treatment and education. It has arranged for two consultative, diagnostic and treatment clinics, one at the Regina General Hospital, and the other in the Saskatoon City Hospital. There is a consultative diagnostic fee of \$10.00 for each case. Where the patient is unable to pay this fee, it is charged to the municipality. Where patients have been unable to provide their own transportation, the Red Cross has assisted.

Manitoba.

The Cancer Research and Relief Institute was created in 1930 to study the problem and help in providing treatment of the disease. Two cancer clinics have been established, one at the Winnipeg General Hospital and the other at St. Boniface General Hospital.

Ontario.

Seven cancer clinics are subsidized by the Department of Health.

Quebec.

There is a Radium Institute in Montreal supported by the Provincial Government.

New Brunswick.

There is a cancer clinic at the Saint John General Hospital. The Department of Health assists this clinic to the extent of paying the salary of the secretary (stenographer). Some educational work has been carried on during the past two years by distributing literature to physicians, holding public meetings, giving talks, etc.

Nova Scotia.

To assist with the early discovery of cases of cancer and to ensure effectual treatment of those found, a tumour diagnostic service is provided at the provincial laboratory and a cancer clinic held in connection with the Victoria General Hospital. Through the laboratory, physicians and hospitals may have suspected tissues examined without charge and patients thought to be suffering from cancer may be sent to the clinic for treatment or study. Discharged patients are sent back to their physicians for follow-up supervision and when necessary are returned to the clinic for further treatment.

(b) Dominion.

There is no Dominion division. The service for the medical supervision of the Civil Service deals with this phase of the health problem in so far as the Federal Civil Service is concerned and might form the nucleus of a demonstration service throughout Canada through periodical medical examination of all civil servants.

I. Health Education.

This branch of public health covers,

- a. educating the public on health matters through factories, schools, newspapers and other periodicals, pamphlets, lectures, etc.
- b. providing facilities for physical education and recreation, such as playgrounds, athletic fields, group gymnastics, hiking and skiing lodges, etc.

(a) Provincial.

All of the provinces do some health education in connection with the regular divisions of their respective Departments of Health and some of the provinces have special facilities for this important aspect of public health work.

Alberta.

There is a Public Health Education Division with a full-time lecturer who is also responsible for assembling and distributing literature.

Manitoba.

There is a health educational service to provide health information, particularly for those residing in districts where health works are not available, and to develop suitable and economical avenues for general health education. Literature is distributed, a lending library conducted, educational talks through the press, radio, and schools arranged, and exhibits prepared for various occasions. In addition to the direct assistance given, interested individuals and community agencies are encouraged to assist in spreading health information. An advisory service for teachers is carried on by means of correspondence, personal interviews, and teaching aids in the form of bulletins, manuals, lesson materials and posters.

Ontario.

The Director of the Division of Public Health Education assists teachers, medical officers of health, nurses, organizations and clubs in any part of the Province in their efforts to spread sound health information; and holds summer courses in health teaching. He also conducts a central health library.

Quebec.

A campaign of popular education in public health and preventive medicine is pursued for the purpose of contributing toward the formation of a new mental attitude on the part of the people. Lectures are given by the medical officers, sanitary inspectors and nurses of the county health units, and literature is distributed, particularly to mothers and school children. The local press publishes

without charge special articles for the purpose of popularizing health principles. In the Provincial Department health education is directed by a physician who is librarian, publicist and editor of "Le Bulletin Sanitaire".

(b) Dominion.

With the appointment of a Director of Publicity it may be expected that the Department of Pensions and National Health will greatly extend its activities in health education.

J. Public Health Nursing.

The general educational objectives of all public health nursing are:

- a. to assist in educating individuals and families to protect their own health.
- b. to assist in the adjustment of families and social conditions that affect health.
- c. to assist in correlating all health and social programmes for the welfare of the families and communities.
- d. to assist in educating the community to develop adequate public health facilities.

(a) Provincial.

In Canada, public health nursing is usually carried on in connection with maternal, infant and school hygiene. All the Provincial Departments of Health have a chief public health nurse, except British Columbia and Quebec, where the nursing service is under a medical doctor. The former type of organization is considered the most conducive to efficiency because the morale of a nursing staff is always highest when under the direction of a professional colleague who it is felt really understands the procedure of nursing.

British Columbia.

There is no separate division for public health nursing. Where there are health units, public health nurses are employed on the staffs. Otherwise, a substantial number of public health nurses are employed by school boards and by municipal health authorities. In some cases the nurses are employed jointly by municipalities and school boards and have their salaries paid in part by grants from the provincial Board of Health and the Department of Education. The subsidy from the Department of Education is on the grounds that the nurses do educational work because they teach health education. This policy has encouraged the hiring of nurses by municipalities and has led to higher standards in the local health services. There were eighty-five nurses in the employ of the Provincial Government, the municipalities and the school authorities as at January 1, 1938. Preference in employment is given to nurses who complete a six-year programme of work in the University of British Columbia and in a hospital training school, whereby they obtain their R.N. standing and, in addition, the degrees of B.A. and B.A.Sc. (Nursing).

Alberta.

There is a Provincial Public Health Nursing Division under a Superintendent of Nurses. There are twenty-two members of the permanent nursing staff, and additional nurses are engaged as required for temporary assistance during the summer months. Twenty-one districts are served. The work in the cities of Edmonton and Calgary is devoted entirely to child welfare, infant and pre-schools clinics with follow-up work in the homes, while in the other districts a generalized programme of public health nursing service and child welfare is carried on. Obstetrical cases are conducted by the district nursing staff without an attending physician.

Saskatchewan.

Public health nursing is part of the Maternal and Child Welfare and Public Health Nursing Division. A supervisor is in charge, and the province is divided into ten districts with a public health nurse, centrally located, in charge of each. Provision is made for change of headquarters, as required, without affecting the boundaries of districts. The public health nurses report on hygienic conditions in the school both to the Department of Public Health and to the school board. In the early years of the depression the staff of public health nurses was gradually reduced but in the past two years some new appointments have been made. The depression necessitated a change of emphasis in public health nursing from prevention to correction because the need for assistance in conserving the health of children became so great. A good deal of time is spent in organizing and conducting dental clinics in relief areas and elsewhere and arranging for treatment in all types of special cases of physical defect.

Manitoba.

The public health nursing division does work of an educational and inspecting nature in maternal, infant, pre-school and school hygiene and assists in communicable disease control. Before 1932, the Province was completely covered by this service, but in that year the staff was severely reduced on grounds of economy. At the present time there are employed, inclusive of field superintendents and director, forty-one nurses. This is approximately two-thirds of those required to put on a complete province-wide nursing service.

Ontario.

Public health nursing in Ontario is operated.

under Boards of Health, Boards of Education or school boards, or by arrangement between the municipal authorities and unofficial agencies, such as the Victorian Order of Nurses, the Ontario Red Cross Society and the St. Elizabeth Visiting Nurses' Association. These nurses are also associated with the health programme in industry. There are some 675 public health nurses engaged in work in approximately 150 municipalities throughout the province. The Division of Child Hygiene and Public Health Nursing of the Ontario Department of Health (already described under "The Hygienes") provides supervision of this service to all official agencies and to those unofficial agencies in which school health supervision is considered to be a part of the public health nursing service.

Quebec.

The thirty-six full-time health units each have public health nurses attached to them. Training in public health, however, is not always required of the nurses. The parts of the Province not included in the health units have negligible facilities in public health nursing. The health units cover about 45 per cent of the rural population.

New Brunswick.

Public health nursing is carried on by public health nurses supervised and subsidized by the Department of Health in Campbelltown, Edmunston, Riley Brook, St. Andrews, St. Stephen and Tracadie, and by the Victorian Order of Nurses subsidized by the Department of Health in Fredericton, Newcastle, Sackville, Woodstock and Moncton. Their work is co-ordinated by the Director of Public Health Nursing who is a trained nurse. This organization carries on a generalized programme of public health service and child welfare work.

Nova Scotia.

There is a Division of Public Health Nursing and Child Hygiene which has twelve public health nurses under a Provincial Superintendent of Public Health Nurses. For public health purposes, the Province is divided into three main districts; the eastern district, which includes Cape Breton Island and the counties of Antigonish and Guysborough of the mainland; the central district, consisting of four counties, Halifax, Pictou, Colchester and Cumberland; and the western district, made up of the remaining counties. In these districts an effort is being made to develop a generalized nursing programme in close cooperation with family physicians. The field nurses may be called upon to aid Divisional Health Officers in connection with tuberculosis clinic, and are expected to cooperate with local health officers in the control of communicable diseases.

Prince Edward Island.

There is a nurse supervisor and four district nurses, all of whom have been trained in public health work.

(b) Dominion.

The Dominion has no service in this field.



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